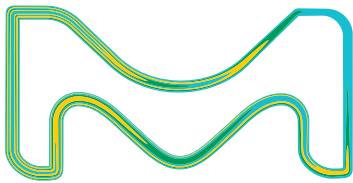


# Accurate reference, accurate results

**Cerilliant® Certified Reference  
Materials for your specific  
applications**



The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

**Supelco®**  
Analytical Products

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# Certified Reference Materials and Standards

## Accurate, precise and consistent results

Our portfolio of over 20,000 products includes reference standards and Certified Reference Materials for analytical testing applications including pharmaceutical, food & beverage, environmental, clinical diagnostic, toxicology & forensic, veterinary, petrochemical, cosmetics, dietary supplements & natural products, GMO standards, and much more!

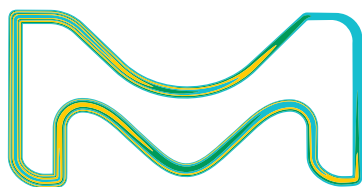
Our wide portfolio also includes OEM in addition to custom products and services.

Our reference material manufacturing sites are at a minimum double accredited to the highest achievable quality level for reference material producers:

ISO 17034 / Guide 34, ISO/IEC 17025,  
ISO 17043, ISO 13485 and ISO 9001

**Consistency is our standard.**

For more information, visit  
[SigmaAldrich.com/standards](https://www.sigmaaldrich.com/standards)



# Reference Materials you can rely on

## Our high standards match yours

Reference materials are particularly important in analytical chemistry to ensure test accuracy. They are essential for validation of methods, accurate calibration of measurement systems, and effective quality control. Research grade working standards are not fully characterized and certified, which is why we recommend reference materials (RMs) and certified reference materials (CRMs) to ensure accuracy and reproducibility. Results are only as accurate as your reference.

## Consistency is our standard

Our analytical chemists have developed organic, inorganic, and microorganism reference materials which can be used to calibrate simple measurements like pH, all the way to testing applications involving complex diagnoses such as thyroid cancer. Our reliable Cerilliant®, TraceCERT® and Certipur® product lines deliver high-quality standards and certified reference materials to ensure accuracy and reliable results while supporting each laboratory's requirements.

## Compliance, always ensured

Regulatory compliance is a critical component of a reference material. With a meticulous supply-chain compliance and regulatory documentation—all our products are tested to industry-specific protocols to ensure the highest standards.

Our systems & processes are inspected and certified by the same regulatory agencies and accreditation bodies that audit your work, including the FDA and the EPA. We develop innovative products in collaboration with national metrology institutes, pharmacopeias and governmental agencies.

Whatever your field of analysis is, we want to help you provide accurate, precise and consistent results. Make sure your decisions are based on accurate and reliable data achieved with Supelco® reference materials and certified reference materials.

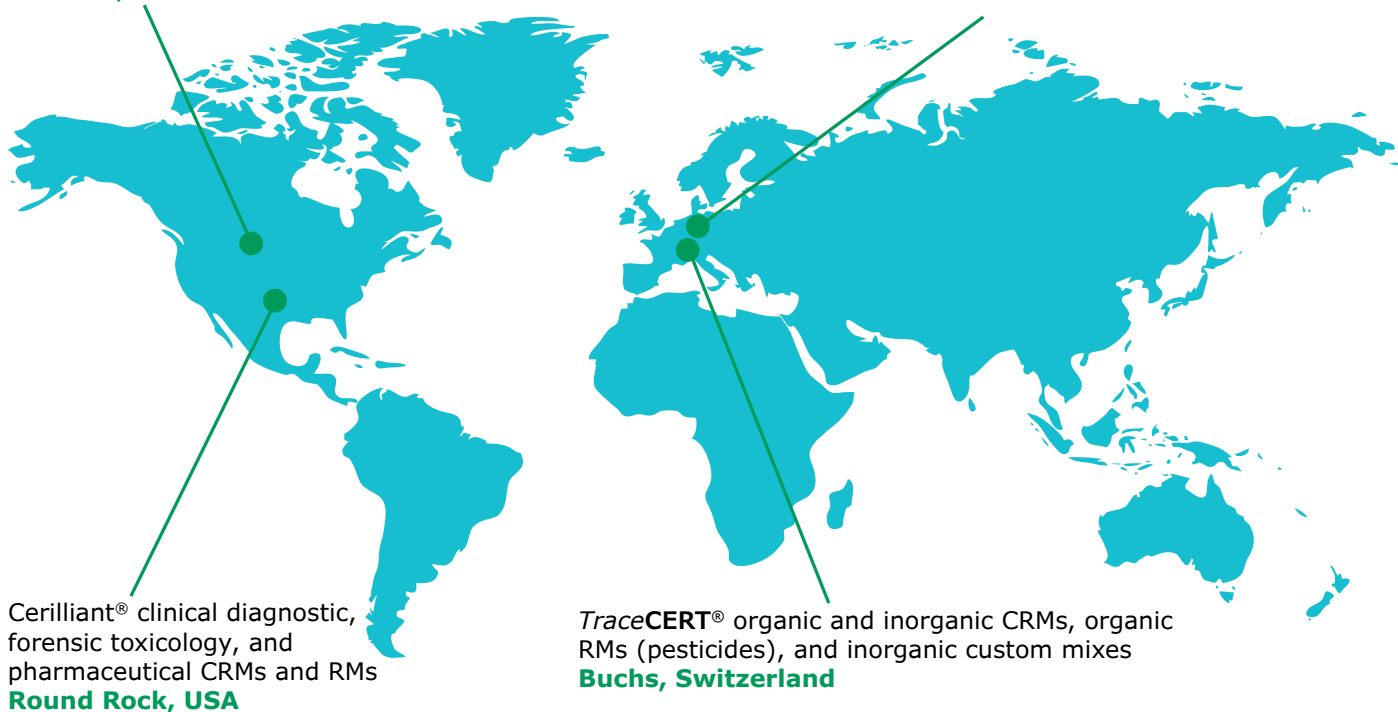
## Reference Materials Production Sites

Pharmaceutical secondary standards, matrix environmental CRMs and proficiency testing schemes

**Laramie, USA**

Certipur® inorganic and elemental CRMs

**Darmstadt, Germany**



Cerilliant® clinical diagnostic, forensic toxicology, and pharmaceutical CRMs and RMs  
**Round Rock, USA**

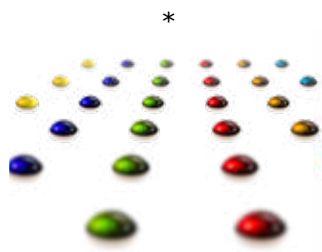
TraceCERT® organic and inorganic CRMs, organic RMs (pesticides), and inorganic custom mixes  
**Buchs, Switzerland**

## A comprehensive portfolio of chemical standards and reference materials

- Pharmaceuticals and their Impurities
- Drugs of Abuse and their Metabolites
- Endogenous Diagnostic Biomarkers
- Pesticides and Environmental Contaminants
- Vitamins and Natural Products
- Elemental Standards
- Physical Properties (pH, Water Content, Color, etc.)
- Microbiology
- Proficiency Testing
- Stable Isotope Labeled Internal Standards
- Multiple third-party partners including USP and NIST
- Custom services including manufacture, certification, synthesis, packaging, distribution, and inventory management of reference materials

## Testing Applications

- Pharmaceutical QC
- Clinical/Diagnostic & Forensic Testing
- Food, Beverage & Cosmetics
- Environmental Testing
- Chemical Processing/Petrochem
- Cannabis Testing



\*



## Fully certified reference materials to the highest industry standards

- Four production sites doubly accredited to ISO 17034/ Guide 34 and ISO/IEC 17025
- Use of validated or qualified testing methods
- Certificate of Analysis, including uncertainty and traceability to meet regulatory requirements
- Real-time assessment of stability and setting of expiry dates and storage conditions based on scientific data

For our comprehensive portfolio of standards and reference materials visit us at: [SigmaAldrich.com/Standards](https://www.sigmaaldrich.com/Standards)  
On our portal we have a search engine to easily find the certified reference materials & standards you need.

\*Copyright Photograph Courtesy of Public Health England

## New Look, Same Cerilliant® Quality

A new look on our Cerilliant® Certificates of Analysis (COA), but with the same quality and level of detail you've come to expect. COAs of Cerilliant® Certified Reference Materials include full details of all analyses, including method, run conditions, chromatograms, and spectral data. For catalog products, each COA includes detailed raw material characterization data as well as verification of solution standard concentration, solution purity, lot-to-lot consistency and homogeneity. For custom products, each COA provides a clear summary of analytical data and customer specifications.

Search for COAs by lot number on the individual product detail page, under the Safety & Documentation section – [www.sigmaaldrich.com](http://www.sigmaaldrich.com)

- **Expiration/Retest Date**  
Established through real-time stability studies with acceptance criteria for both purity and concentration.
- **Isotopic Purity**  
Isotopic distribution is shown for stable-labeled materials.
- **Concentration & Uncertainty**  
Represents the actual concentration (not theoretical) based on material weighings and material Purity Factor. Concentration incorporates any necessary adjustments for salts – no additional adjustment is needed prior to use.
- **Uncertainty Statement**  
Provides details of what standards were used to develop the uncertainty value, the confidence interval, the coverage factor and the processes or steps incorporated.
- **Analytical Verification of Concentration & Ampoule to Ampoule Consistency**  
The gravimetrically prepared concentration is verified analytically by comparison to an independently prepared calibration solution. Lot-to-lot consistency is demonstrated through analysis of the previous lot (where available).
- **Traceability Statement**  
Describes traceability to SI units and higher order standards from NIST.
- **Solution Standards Assay**  
Shows method used to assay solution to an independently prepared calibration solution. Analytical verification of solution purity post ampouling provides confirmation that no degradation or contamination has occurred.
- **Neat Material Characterization Summary & Purity Factor Assignment**  
Cerilliant Certified Solution Standards begin with full characterization of the neat material including chromatographic purity and analyses for residual content including: water, solvent, and inorganics.
- **Chromatographic Purity**  
Multiple techniques are utilized to determine chromatographic purity. Results must agree within 0.5% of each other. The Primary purity method is used for purity factor calculations. The Secondary purity method is utilized as a confirming method.
- **Purity Factor**  
The purity factor (PF) mass balance measurement equation is used to calculate the amount of analyte required to achieve an accurate concentration of the solution standard, accounting for chromatographic purity and residuals.
- **Identity**  
Multiple methods are utilized to determine neat material identity.
- **Neat Material Characterization Details**  
Details of all neat material testing performed is provided along with run conditions and spectra.
- **Storage**  
Long-term and short-term storage recommendations are made based on scientific studies.
- **Stability**  
Results of short-term and accelerated stability studies provided to support shipping conditions and normal lab use.

Our High Standards Match Yours. Learn more at [sigmaaldrich.com/analytical](http://sigmaaldrich.com/analytical) standards and certified reference materials

[sigmaaldrich.com/cerilliant](http://sigmaaldrich.com/cerilliant) quality

## Certified Reference Material - Certificate of Analysis

### alpha-Methylfentanyl, Primary Measurement Standard

(±)-N-[1-(1-methyl-2-phenylethyl)-4-piperidiny]-N-phenyl-propanamide hydrochloride

**Product No.:** M-214-0.5ML  
**Lot No.:** FE05301802  
**Description of CRM:** alpha-Methylfentanyl HCl in Methanol (Solution)  
 Nominal concentration is adjusted for HCl content.  
**Retest Date:** June 2020 See Section "Stability Assessment".  
**Storage:** Store unopened in freezer (-10 °C to -25 °C).  
**Shipping:** Ambient. See Section "Stability Assessment".  
**Chemical formula:** C<sub>23</sub>H<sub>30</sub>N<sub>2</sub>O • HCl  
**CAS No.:** 1443-44-3  
**Regulatory:** USDEA Exempt | Canadian TK # 61-1682

#### Cerilliant Quality

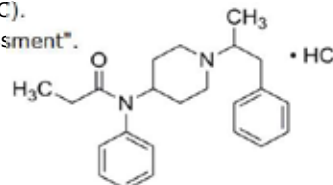
ISO 17034

ISO/IEC 17025

ISO 13485

ISO 14001

ISO 9001



Analyte	Certified Concentration ± associated uncertainty U, u=k*u (k=2)
alpha-Methylfentanyl	100.0 ± 0.6 µg/mL

**Metrological traceability:** Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. See "Details on metrological traceability" on page 2.

**Measurement method:** The certified value is calculated from high precision weighing of thoroughly characterized starting material. See "Details about certification process" on page 2.

**Intended use:** This Certified Reference Material is suitable for the in vitro identification, calibration, and quantification of the analyte(s) in analytical and R&D applications. Not suitable for human or animal consumption.

**Minimum sample size:** 1 µL for quantitative applications

**Instructions for handling and correct use:** Concentration is corrected for chromatographic purity, residual water, residual solvents, and residual inorganics. No adjustment required before use.

Users should quantitatively transfer desired volume using established good laboratory practices to spike into matrix or to dilute to the desired concentration. Each ampoule is intended for one-time use.

Nominal concentration is adjusted for HCl content. No adjustment required before use.

**Health and safety information:** Danger. Please refer to the Safety Data Sheet for detailed information about the nature of any hazard and appropriate precautions to be taken.

**Accreditation:** Cerilliant Corp. is accredited by the US accreditation authority ANAB as registered reference material producer AR-1353 in accordance with ISO 17034 and registered testing laboratory AT-1352 according to ISO/IEC 17025.




Darron Ellsworth, Quality Assurance Manager

June 10, 2019

Issue Date

# ACCURATE RESULTS FOR TESTING LABORATORIES

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is our standard.**



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**1 SAMPLE COLLECTION**

- Labware (bottles, vials, tubes, lids, bags, syringes)



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- New Recombinant Limpet  $\beta$ -Glucuronidase
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- Amicon<sup>®</sup> protein centrifugal filters
- Milli-Q<sup>®</sup> ultrapure water purification systems



**3 ANALYSIS AND INTERPRETATION**

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- HPLC & UHPLC columns
- Hardware
- Solvents and Buffers for HPLC and UHPLC
- Milli-Q<sup>®</sup> ultrapure water purification systems
- Cerilliant<sup>™</sup> Certified Reference Materials (CRMs)



**4 QA SUPPORT**

- Proper supporting documentation with every audit
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MilliporeSigma has brought together the world's leading Life Science brands, so whatever your life science problem, you can benefit from our expert products and services.

# SAME PRODUCTS NEW LABELS

As part of the Supelco® portfolio of analytical products from MilliporeSigma, we are updating our packaging and making vibrant science a reality by introducing smarter labels and more sustainable materials for all our Cerilliant® Certified Reference Materials (CRMs).

Rest assured, we're not changing the high standards of our comprehensive range of products or services that you've come to expect with Cerilliant® CRMs. The same Cerilliant® quality, just with a new label and packaging.

**Why Supelco®?** MilliporeSigma has created the Supelco portfolio of analytical products, built on providing accuracy and reliability, and developed for analytical chemists, by analytical chemists.

The rebranding of our product packaging and labeling is in conjunction with the realignment of our products into our six portfolio brands. To learn about each please visit: [SigmaAldrich.com/Packaging](https://SigmaAldrich.com/Packaging)



Supelco

A-141-1ML Lot:  
Cerilliant®  
Acylcarnitines Mix  
10 mg/mL (each ampoule)  
in 1 mL Methanol  
Expires: See COA  
Storage: Freezer

333 Paloma Dr., Suite A, Bldg. 100

Supelco

C-162-0.5ML Lot:  
Cerilliant®  
Carfentanil Oxalate  
100 µg/mL (as free base)  
in 0.5 mL Methanol  
Expires: See COA  
Storage: Freezer  
USDEA Exempt  
TK# 61-920

333 Paloma Dr., Suite A, Bldg. 100

Supelco

C-163-0.5ML Lot:  
Cerilliant®  
Carfentanil-D5 Oxalate  
100 µg/mL (as free base)  
in 0.5 mL Methanol  
Expires: See COA  
Storage: Freezer  
USDEA Exempt  
TK# 61-921

333 Paloma Dr., Suite A, Bldg. 100

Supelco

P-114-1ML Lot:  
Cerilliant®  
PEth 16:0/18:1  
1.0 mg/mL (as free base)  
in 1.0 mL Methanol  
Expires: See COA  
Storage: Sub-Freezer  
(Store Upright)

333 Paloma Dr., Suite A, Bldg. 100

## Multi-Component Drug Standards and Kits

Cerilliant offers a broad selection of certified multi-component reference material solutions for a wide variety of quantitative or qualitative applications. These include forensic and clinical toxicology, therapeutic drug monitoring, clinical and diagnostic testing, prescription monitoring, clinical chemistry, dietary supplement quality control testing, environmental analysis of hormones and personal care products, endocrinology, and pharmaceutical research and release testing.

Cerilliant supplies its certified solution standards of controlled material in a convenient, quantitative, USDEA and Health Canada (with TK#s)-exempt solution format. Cerilliant reference standards are manufactured and certified to the highest industry standards including ISO Guide 17034, ISO/IEC 17025, and ISO 13485 and are compliant with ISO 17511 and ISO 15194.

Product Name	Cat. No.
<b>Amine Mixture-6</b> 250 µg/mL of each component 1 mL Methanol (±)-Amphetamine (±)-MDA (±)-MDMA (±)-MDEA (±)-Methamphetamine Phentermine	<b>A-050-1ML</b>
<b>Barbiturate Mix-5</b> 250 µg/mL of each component 1 mL Methanol Amobarbital Butalbital Pentobarbital Phenobarbital Secobarbital	<b>B-041-1ML</b>
<b>Benzodiazepine Internal Standard-3</b> 0.5-1.0 mg/mL of each component 1 mL Acetonitrile 7-Aminoclonazepam-D <sub>4</sub> α-Hydroxytriazolam-D <sub>4</sub> 7-Aminoflunitrazepam-D <sub>7</sub>	<b>B-905-1ML</b>
<b>Benzodiazepine Multi-Component Mixture-8</b> 250 µg/mL of each component 1 mL Acetonitrile Alprazolam Clonazepam Diazepam Flunitrazepam Lorazepam Nitrazepam Oxazepam Temazepam	<b>B-033-1ML</b>
<b>Catecholamine Mix 1 (Epinephrines)</b> 1.0 mg/mL (as free base) of each component 1 mL Methanol (±)-Norepinephrine HCl (±)-Epinephrine HCl	<b>C-109-1ML</b>
<b>Catecholamine Mix 2 (Metanephrines)</b> 1.0 mg/mL (as free base) of each component 1 mL Methanol (±)-Metanephrine HCl (±)-Normetanephrine HCl	<b>C-110-1ML</b>
<b>Catecholamine Metabolites Mix</b> 1.0 mg/mL of each component 1 mL Methanol 5-Hydroxyindole-3-acetic acid Homovanillic acid (±)-Vanilmandelic acid	<b>C-111-1ML</b>
<b>Cocaine Multi-Component Mixture-4</b> 250 µg/mL of each component 1 mL Acetonitrile Benzoylecgonine Cocaethylene Cocaine Ecgonine methyl ester	<b>C-088-1ML</b>

Product Name	Cat. No.
<b>iMethod™ Test Kit for Benzodiazepines</b>	<b>IMF-020-1KIT</b>
<b>iMethod™ Test Kit for Benzodiazepines with Synthetic Urine</b>	<b>IMF-020S-1KIT</b>
<b>iMethod™ Test Kit for NIDA 5 Drug Panel</b>	<b>IMF-021-1KIT</b>
<b>iMethod™ Test Kit for NIDA 5 Drug Panel with Synthetic Urine</b>	<b>IMF-021S-1KIT</b>
<b>Interference Mix 1 (For Qualitative Use Only)</b> 100-1000 µg/mL of each component 1 mL Methanol Acetaminophen (-)-Cotinine R,R(-)-Pseudoephedrine Caffeine Naproxen Ibuprofen Phentermine (-)-Nicotine	<b>I-023-1ML</b>
<b>Interference Mix 2 (For Qualitative Use Only)</b> 100 µg/mL of each analyte 1 mL Methanol Gabapentin Pregabalin Valproic acid Vigabatrin Salicylic acid	<b>I-024-1ML</b>
<b>Interference Mix 3 (For Qualitative Use Only)</b> 50-1000 µg/mL of each component 1 mL Acetonitrile Aripiprazole Lacosamide Oxcarbazepine (+)-Propoxyphene Rufinamide Warfarin	<b>I-025-1ML</b>
<b>Interference Mix 4 (For Qualitative Use Only)</b> 5-100 µg/mL of each component 1 mL Methanol Alprazolam Citalopram HBr Clonazepam Clodogrel Bisulfate Cimetidine Dextromethorphan Fluconazole Hydrochlorothiazide Lamotrigine Levothyroxine Methylphenidate HCl Omeprazole	<b>I-026-1ML</b>
<b>Interference Mix 5 (For Qualitative Use Only)</b> 100 µg/mL of each component 1 mL Methanol Carbamazepine Levetiracetam Metformin HCl Phenobarbital Phenytoin (R)-Phenylephrine HCl Sertraline HCl Topiramate Zolpidem tartrate Zonisamide	<b>I-027-1ML</b>
<b>Interference Mix 6 (For Qualitative Use Only)</b> 5-100 µg/mL of each component 1 mL Methanol Amlodipine besylate Atorvastatin Calcium salt Azithromycin Bupivacaine HCl Cetirizine diHCl Dimenhydrinate Lisinopril Loratadine	<b>I-028-1ML</b>
<b>Interference Mix 7 (For Qualitative Use Only)</b> 50-100 µg/mL of each component 1 mL Methanol Montelukast Sodium Pioglitazone HCl Prednisolone Prednisone Procaïnamide HCl Simvastatin	<b>I-029-1ML</b>
<b>Interference Mix Kit (For Qualitative Use Only)</b> I-023 Interference Mix 1 (For Qualitative Use Only) I-027 Interference Mix 5 (For Qualitative Use Only) I-024 Interference Mix 2 (For Qualitative Use Only) I-028 Interference Mix 6 (For Qualitative Use Only) I-025 Interference Mix 3 (For Qualitative Use Only) I-029 Interference Mix 7 (For Qualitative Use Only) I-026 Interference Mix 4 (For Qualitative Use Only)	<b>I-030-7X1ML</b>
<b>Methamphetamine/Cocaine/Heroin Mix</b> 250 µg/mL of each component 1 mL Acetonitrile Cocaine Heroin (±)-Methamphetamine	<b>M-025-1ML</b>

Product Name			Cat. No.
<b>Opiate Multi-Component Mixture-5</b> 250 µg/mL of each component 1 mL Methanol			<b>O-020-1ML</b>
Codeine (±)-Methadone	Hydrocodone Oxycodone	Meperidine	
<b>Over-The-Counter Multi-Component Mixture-6</b> 100 µg/mL of each component 1 mL Acetonitrile			<b>O-034-1ML</b>
Acetaminophen Ibuprofen	Caffeine Naproxen	Chlorpheniramine Maleate (1R,2R)-(-)-Pseudoephedrine	
<b>Pain Management Multi-Component Opiate Mixture-13</b> 100 µg/mL of each component; 10 µg/mL of Fentanyl 1 mL Methanol			<b>P-071-1ML</b>
Buprenorphine Hydrocodone (±)-Methadone Naltrexone cis-Tramadol HCl	Codeine Hydromorphone Morphine Oxycodone	Fentanyl (10 µg/mL) Meperidine Naloxone Oxymorphone	
<b>THC Cannabinoids Mixture-3</b> 1.0 mg/mL of each component 0.5 mL Methanol			<b>T-108-0.5ML</b>
(-)-Δ <sup>9</sup> -THC	Cannabidiol	Cannabinol	
<b>Spice Cannabinoid Mix</b> 100 µg/mL of each component 1 mL Acetonitrile			<b>S-038-1ML</b>
(±)-CP 47, 497 JWH-200	(±)-CP 47, 497 C8 Homologue JWH-250	HU-211	
<b>Spice Cannabinoid Mix 2</b> 100 µg/mL of each component 1 mL Acetonitrile			<b>S-041-1ML</b>
AM2201 JWH-122	JWH-019	JWH-081	
<b>Spice Cannabinoid Mix 3</b> 100 µg/mL of each component 1 mL Acetonitrile			<b>S-047-1ML</b>
AM2233 JWH-210	JWH-015 RCS-4	JWH-203 RCS-8	

## Acylcarnitines

Acylcarnitines are intermediates of fatty acid and amino acid oxidation found in tissues and body fluids. Acylcarnitines are important diagnostic markers for inherited diseases of peroxisomal and mitochondrial oxidation processes. Abnormalities in specific acylcarnitine concentrations are used in the identification of carnitine deficiency and diagnosis of fatty acid oxidation defects and organic acidurias, such as carnitine-acylcarnitine translocase deficiency (CACTD) or Isobutyryl-CoA dehydrogenase deficiency. Measuring different acylcarnitines can be used to detect more than 40 different inborn errors of metabolism. If these diseases are not diagnosed, the metabolic disorders can lead to severe irreversible harm to newborns within their first few days of life. Newborn screening programs aim to detect congenital metabolic disorders early on in infants before they become symptomatic. Liquid chromatography-tandem mass spectrometry (LC-MS/MS) has greatly increased the screening possibilities in newborn screening programs and has been established as an efficient and robust methodology for analyzing acyl-L-carnitines. Detection by MS provides the required sensitivity and direct infusion may be sufficient to detect several disorders with a single injection. For more detailed analysis and for measuring acylcarnitine isomers that are closely related, separation by liquid chromatography before detection is important.

Product Name	ID	Cat. No.	Size	Structure
Acylcarnitines Mix 1 (C0,C2)		<b>A-141-1ML</b>	10.0 mg/mL (each analyte as free base) 1 mL Methanol	
Acylcarnitines IS Mix 1 (C0,C2)		<b>A-148-1ML</b>	1.0 mg/mL (each analyte) 1 mL Methanol	
Glutaryl-L-Carnitine	102636-82-8 C <sub>12</sub> H <sub>20</sub> NO <sub>6</sub> ·Li M.W. 281.23	<b>A-176-1ML</b>	100 µg/mL 1 mL 90:10 Methanol: 1% aqueous formic acid	
Glutaryl-L-Carnitine- (N-Methyl-D <sub>3</sub> )	1803252-72-3 C <sub>12</sub> D <sub>3</sub> H <sub>18</sub> NO <sub>6</sub> ·Li M.W. 285.26	<b>A-181-1ML</b>	100 µg/mL 1 mL 90:10 Methanol: 1% aqueous formic acid	
Palmitoyl-L-Carnitine	2364-67-2 C <sub>23</sub> H <sub>45</sub> NO <sub>4</sub> M.W. 399.61	<b>A-162-1ML</b>	5.0 mg/mL 1 mL 90:10 Methanol:DMSO	
Palmitoyl-L-Carnitine (N-Methyl-D <sub>3</sub> )	202480-73-7 C <sub>23</sub> H <sub>42</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 402.62	<b>A-164-1ML</b>	500 µg/mL 1 mL 90:10 Methanol:DMSO	
Propionyl-L-Carnitine	20064-19-1 C <sub>10</sub> H <sub>19</sub> NO <sub>4</sub> M.W. 217.26	<b>A-161-1ML</b>	5.0 mg/mL 1 mL 90:10 Methanol:DMSO	
Propionyl-L-Carnitine- (N-Methyl-D <sub>3</sub> )	203806-01-3 C <sub>10</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 220.28	<b>A-163-1ML</b>	500 µg/mL 1 mL 90:10 Methanol:DMSO	

## Alcohol Standards

MilliporeSigma's Cerilliant® brand offers a comprehensive portfolio of solution-based certified reference materials for blood alcohol/ethanol testing applications. These include single-component ethanol standards, multi-component alcohol mixes, ethyl glucuronide & ethyl sulfate urinary metabolites, phosphatidylethanol (PEth) alcohol biomarkers and their stable-labeled internal standards. PEth, or phosphatidylethanol, is a group of phospholipids formed only in the presence of ethanol from the action of phospholipase D. These direct alcohol biomarkers demonstrate high sensitivities appropriate for determining moderate to heavy alcohol consumption. The superior sensitivity and specificity of blood PEth over other alcohol biomarkers for determining alcohol consumption has resulted in its wide use and recommendation in the US and EU as a confirmatory test for recent drinking. We have the exclusive rights to manufacture, sell, and market CRMs of major PEth analogs in all global markets.

Product Name	ID	Size	Cat. No.
Ethanol-10 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	10 mg/dL	E-040
Ethanol-20 (5 ampoule multi-pack) 5 mL Water/ampoule, 5 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	20 mg/dL	E-043
Ethanol-20 (10 ampoule multi-pack) 1.2 mL/ampoule, 10 ampoules/kit	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	20 mg/dL	E-056
Ethanol-25 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	25 mg/dL	E-035
Ethanol-40 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	40 mg/dL	E-045
Ethanol-50 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	50 mg/dL	E-029
Ethanol-80 (5 ampoule multi-pack) 5 mL Water/ampoule, 5 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	80 mg/dL	E-037
Ethanol-80 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	80 mg/dL	E-030
Ethanol-100 (5 ampoule multi-pack) 5 mL Water/ampoule, 5 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	100 mg/dL	E-038
Ethanol-100 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	100 mg/dL	E-031
Ethanol-150 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	150 mg/dL	E-041
Ethanol-200 (5 ampoule multi-pack) 5 mL Water/ampoule, 5 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	200 mg/dL	E-039

Product Name	ID	Size	Cat. No.
Ethanol-200 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	200 mg/dL	E-032
Ethanol-300 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	300 mg/dL	E-033
Ethanol-400 (5 ampoule multi-pack) 5 mL Water/ampoule, 5 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	400 mg/dL	E-044
Ethanol-400 (10 ampoule multi-pack) 1.2 mL Water/ampoule, 10 ampoules/pack	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	400 mg/dL	E-036
Ethanol-500 (10 ampoule multi-pack) 1.2 mL/ampoule, 10 ampoules/kit	64-17-5 C <sub>2</sub> H <sub>6</sub> O 46.07	500 mg/dL	E-053
Ethanol Calibration Kit 1.2 mL Water/ampoule 2 ampoules of each concentration, 10 ampoules/kit	64-17-5		E-034
Ethyl-β-D-glucuronide	17685-04-0 C <sub>8</sub> H <sub>14</sub> O <sub>7</sub> 222.19	100 µg/mL 1 mL Methanol	E-016
	17685-04-0 C <sub>8</sub> H <sub>14</sub> O <sub>7</sub> 222.19	1.0 mg/mL 1 mL Methanol	E-015
Ethyl-β-D-glucuronide-D <sub>5</sub>	1135070-98-2 C <sub>8</sub> H <sub>9</sub> D <sub>5</sub> O <sub>7</sub> 227.22	100 µg/mL 1 mL Methanol	E-048
	1135070-98-2 C <sub>8</sub> H <sub>9</sub> D <sub>5</sub> O <sub>7</sub> 227.22	1.0 mg/mL 1 mL Methanol	E-063
Ethyl sulfate sodium salt	546-74-7 C <sub>2</sub> H <sub>5</sub> NaO <sub>4</sub> S 148.11	1.0 mg/mL 1 mL Methanol	E-064
Ethyl sulfate sodium salt	546-74-7 C <sub>2</sub> H <sub>5</sub> O <sub>4</sub> SNa 148.11	10.0 mg/mL 1 mL Methanol: Water (1:1)	E-116
Ethyl-D <sub>5</sub> sulfate sodium salt	1329611-05-3 C <sub>2</sub> D <sub>5</sub> NaO <sub>4</sub> S 153.14	1.0 mg/mL 1 mL Methanol	E-066
Multicomponent Alcohol Calibration Kit (C <sub>1</sub> -C <sub>3</sub> ) Each component at stated concentration 1.2 mL Water/ampoule, 3 ampoules/kit			A-054
Multicomponent Alcohol Calibration Kit (C <sub>1</sub> -C <sub>6</sub> ) Each component at stated concentration			A-127
Multicomponent Alcohol Mix-100 1.2 mL Water	100 µg/mL of each component		A-076
Multicomponent Alcohol Mix-250 1.2 mL Water	250 µg/mL of each component		A-124
Multicomponent Alcohol Mix 500 1.2 mL Water	500 µg/mL of each component		A-057
Multicomponent Alcohol Mix 1000 1.2 mL Water	1000 µg/mL of each component		A-056



Product Name	ID	Size	Cat. No.
Multicomponent Alcohol Mix-2000 1.2 mL Water	2000 µg/mL of each component		A-125
Multicomponent Alcohol Mix-4000 1.2 mL Water	4000 µg/mL of each component		A-061
PEth 16:0/18:1	$C_{39}H_{74}O_8P \cdot NC_{16}H_{36}$ 944.44	1.0 mg/mL ( <i>as free acid</i> ) 1 mL Methanol	P-114
PEth 16:0/18:2	$C_{39}H_{72}O_8P \cdot NC_{16}H_{36}$ 942.42	1.0 mg/mL ( <i>as free acid</i> ) 1 mL Methanol	P-115
PEth 16:0/18:1-D <sub>5</sub>	$C_{39}H_{69}D_5O_8P \cdot NC_3H_{10}$ 708.01	100 µg/mL ( <i>as free acid</i> ) 1 mL Methanol	P-151

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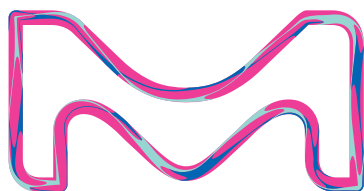
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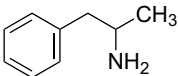
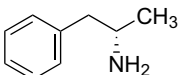
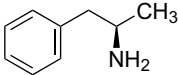
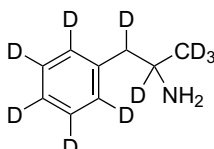
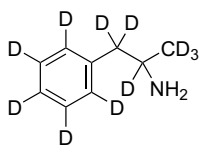
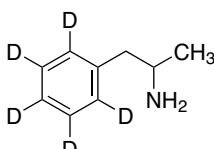
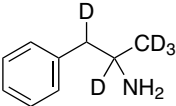


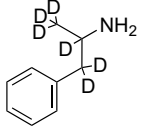
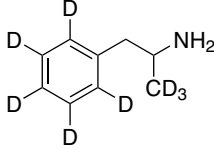
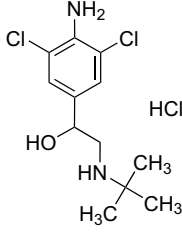
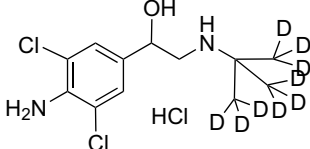
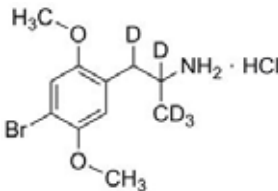
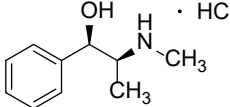
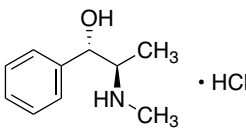
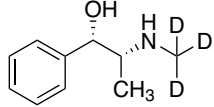
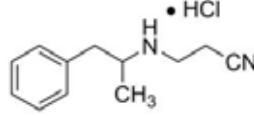
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# Amphetamines

Amphetamines are central nervous system (CNS) stimulants that produce alertness, euphoria, and hallucinations in users. Many amphetamines are legally prescribed with therapeutic uses for medical conditions such as attention deficit hyperactivity disorder (ADD and ADHD), bipolar spectrum disorder, narcolepsy, Parkinson's disease and obesity. Because of their high potential for abuse, the substances are classified as Schedule II drugs by the U.S. Drug Enforcement Administration (DEA). Synthetic amphetamines are sold on the illicit drug markets and have recently experienced a surge in abuse worldwide. The chronic abuse of amphetamines can lead to serious problems, including brain and cardiovascular damage, malnutrition and psychosis. In high doses, amphetamines can make the user feel extremely nervous, anxious, confused and irritable or can lead to hostility, aggression and violence. The consequences of amphetamines overdose include collapse, seizure, heart failure, stroke and death.

Product Name	ID	Cat. No.	Size	Structure
(±)-Amphetamine	300-62-9 C <sub>9</sub> H <sub>13</sub> N M.W. 135.21	<b>A-011-1ML</b>	100 µg/mL 1 mL Methanol	
	300-62-9 C <sub>9</sub> H <sub>13</sub> N M.W. 135.21	<b>A-007-1ML</b>	1.0 mg/mL 1 mL Methanol	
S(+)-Amphetamine (dextro-Amphetamine)	51-64-9 C <sub>9</sub> H <sub>13</sub> N M.W. 135.21	<b>A-008-1ML</b>	1.0 mg/mL 1 mL Methanol	
R(-)-Amphetamine (levo-Amphetamine)	156-34-3 C <sub>9</sub> H <sub>13</sub> N M.W. 135.21	<b>A-049-1ML</b>	1.0 mg/mL 1 mL Methanol	
(±)-Amphetamine-D <sub>10</sub>	169565-17-7 C <sub>9</sub> H <sub>3</sub> D <sub>10</sub> N M.W. 145.27	<b>A-038-1ML</b>	100 µg/mL 1 mL Methanol	
(±)-Amphetamine-D <sub>11</sub>	66432-30-2 C <sub>9</sub> H <sub>2</sub> D <sub>11</sub> N M.W. 146.27	<b>A-019-1ML</b>	1.0 mg/mL 1 mL Methanol	
	66432-30-2 C <sub>9</sub> H <sub>2</sub> D <sub>11</sub> N M.W. 146.27	<b>A-016-1ML</b>	100 µg/mL 1 mL Methanol	
(±)-Amphetamine-D <sub>5</sub> (deuterium label on ring)	65538-33-2 C <sub>9</sub> H <sub>8</sub> D <sub>5</sub> N M.W. 140.24	<b>A-002-1ML</b>	100 µg/mL 1 mL Methanol	
(±)-Amphetamine-D <sub>5</sub> (deuterium label on side chain)	136765-27-0 C <sub>9</sub> H <sub>8</sub> D <sub>5</sub> N M.W. 140.24	<b>A-005-1ML</b>	100 µg/mL 1 mL Methanol	
	136765-27-0 C <sub>9</sub> H <sub>8</sub> D <sub>5</sub> N M.W. 140.24	<b>A-013-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
(±)-Amphetamine-D <sub>6</sub>	73758-26-6 C <sub>9</sub> H <sub>7</sub> D <sub>6</sub> N M.W. 141.24	<b>A-044-1ML</b>	100 µg/mL 1 mL Methanol	
	73758-26-6 C <sub>9</sub> H <sub>7</sub> D <sub>6</sub> N M.W. 141.24	<b>A-045-1ML</b>	1.0 mg/mL 1 mL Methanol	
(±)-Amphetamine-D <sub>8</sub>	145225-00-9 C <sub>9</sub> H <sub>5</sub> D <sub>8</sub> N M.W. 143.26	<b>A-017-1ML</b>	100 mg/mL 1 mL Methanol	
	145225-00-9 C <sub>9</sub> H <sub>5</sub> D <sub>8</sub> N M.W. 143.26	<b>A-018-1ML</b>	1.0 µg/mL 1 mL Methanol	
Clenbuterol HCl	21898-19-1 C <sub>12</sub> H <sub>18</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 313.65	<b>C-080-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Clenbuterol-D <sub>9</sub> HCl	184006-60-8 C <sub>12</sub> D <sub>9</sub> H <sub>9</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 322.71	<b>C-081-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
(±)-2,5-Dimethoxy-4-Bromoamphetamine-D <sub>5</sub> HCl (DOB-D <sub>5</sub> HCl)	C <sub>11</sub> H <sub>11</sub> D <sub>5</sub> BrNO <sub>2</sub> ·HCl M.W. 315.65	<b>D-125-1ML</b>	100 µg/mL 1 mL Methanol	
(1R,2S)-(-)-Ephedrine HCl	50-98-6 C <sub>10</sub> H <sub>15</sub> NO·HCl M.W. 201.69	<b>E-023-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
1S,2R(+)-Ephedrine HCl	24221-86-1 C <sub>10</sub> H <sub>15</sub> NO·HCl M.W. 165.23	<b>E-011-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
1S,2R(+)-Ephedrine-D <sub>3</sub> HCl	285979-73-9 C <sub>10</sub> H <sub>12</sub> D <sub>3</sub> NO·HCl M.W. 204.71	<b>E-026-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
	285979-73-9 C <sub>10</sub> H <sub>12</sub> D <sub>3</sub> NO·HCl M.W. 204.71	<b>E-025-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	HCl
Fenproporex HCl	18305-29-8 C <sub>12</sub> H <sub>16</sub> N <sub>2</sub> ·HCl M.W. 224.73	<b>F-056-1ML</b>	1 mg/mL ( <i>as free base</i> ) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
4-Fluoroamphetamine HCl	64609-06-9 C <sub>9</sub> H <sub>12</sub> FN·HCl M.W. 189.66	F-018-1ML	1.0 mg/mL (as free base) 1 mL Methanol	 • HCl
2-Fluoroamphetamine HCl	1626-69-3 C <sub>9</sub> H <sub>12</sub> FN·HCl M.W. 189.66	F-019-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
4-Fluoromethamphetamine HCl	52063-62-4 C <sub>10</sub> H <sub>14</sub> FN·HCl M.W. 203.68	F-020-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Fluoromethamphetamine HCl	C <sub>10</sub> H <sub>14</sub> FN·HCl M.W. 203.68	F-021-ML	1.0 mg/mL (as free base) 1 mL Methanol	
4-Hydroxyamphetamine HCl	876-26-6 C <sub>9</sub> H <sub>13</sub> NO·HCl M.W. 187.67	H-136-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
4-Hydroxyamphetamine-D <sub>5</sub> HBr	C <sub>9</sub> H <sub>8</sub> D <sub>5</sub> NO·HBr M.W. 237.15	H-133-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Lisdexamfetamine dimesylate	608137-33-3 C <sub>15</sub> H <sub>25</sub> N <sub>3</sub> O· 2(CH <sub>3</sub> SO <sub>3</sub> ) M.W. 455.59	L-026-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Lisdexamfetamine-D <sub>4</sub> dimesylate	C <sub>15</sub> H <sub>21</sub> D <sub>4</sub> N <sub>3</sub> O· 2(CH <sub>3</sub> SO <sub>3</sub> H) M.W. 459.61	L-028-1ML	100 µg/mL (as free base) 1 mL Methanol	
(±)-MBDB HCl	103818-37-7 C <sub>12</sub> H <sub>17</sub> NO <sub>2</sub> ·HCl M.W. 243.73	M-102-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-MDA [(±)-3,4-Methylenedioxyamphetamine]	4764-17-4 C <sub>10</sub> H <sub>13</sub> NO <sub>2</sub> M.W. 179.22	M-012-1ML	1.0 mg/mL 1 mL Methanol	
(±)-MDA-D <sub>5</sub> [(±)-3,4-Methylenedioxyamphetamine-D <sub>5</sub> ]	136765-42-9 C <sub>10</sub> H <sub>8</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 184.25	M-027-1ML	1.0 mg/mL 1 mL Methanol	
	136765-42-9 C <sub>10</sub> H <sub>8</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 184.25	M-010-1ML	100 µg/mL 1 mL Methanol	
MDAI HCl	132741-81-2 C <sub>10</sub> H <sub>11</sub> NO <sub>2</sub> ·HCl M.W. 213.66	M-144-1ML	100 µg/mL (as free base) 1 mL Acetonitrile:Water (90:10) with 5% 1M HCl	

Product Name	ID	Cat. No.	Size	Structure
(±)-MDEA [(±)-3,4-Methylenedioxyethylamphetamine]	82801-81-8 C <sub>12</sub> H <sub>17</sub> NO <sub>2</sub> M.W. 207.27	M-065-1ML	1.0 mg/mL 1 mL Methanol	
(±)-MDEA-D <sub>5</sub> [(±)-3,4-Methylenedioxyethylamphetamine-D <sub>5</sub> ]	160227-43-0 C <sub>12</sub> H <sub>12</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 212.3	M-067-1ML	100 µg/mL 1 mL Methanol	
	160227-43-0 C <sub>12</sub> H <sub>12</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 212.3	M-068-1ML	1.0 mg/mL 1 mL Methanol	
(±)-MDEA-D <sub>6</sub> [(±)-3,4-Methylenedioxyethylamphetamine-D <sub>6</sub> ]	160227-44-1 C <sub>12</sub> H <sub>11</sub> D <sub>6</sub> NO <sub>2</sub> M.W. 213.31	M-081-1ML	100 µg/mL 1 mL Methanol	
	160227-44-1 C <sub>12</sub> H <sub>11</sub> D <sub>6</sub> NO <sub>2</sub> M.W. 213.31	M-082-1ML	1.0 mg/mL 1 mL Methanol	
(±)-MDMA [(±)-3,4-Methylenedioxymethamphetamine]	42542-10-9 C <sub>11</sub> H <sub>15</sub> NO <sub>2</sub> M.W. 193.24	M-013-1ML	1.0 mg/mL 1 mL Methanol	
(±)-MDMA-D <sub>5</sub> [(±)-3,4-Methylenedioxymethamphetamine-D <sub>5</sub> ]	136765-43-0 C <sub>11</sub> H <sub>10</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 198.27	M-011-1ML	100 mg/mL 1 mL Methanol	
	136765-43-0 C <sub>11</sub> H <sub>10</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 198.27	M-029-1ML	1.0 µg/mL 1 mL Methanol	
(±)-Methamphetamine	7632-10-02 C <sub>10</sub> H <sub>15</sub> N M.W. 149.23	M-022-1ML	100 mg/mL 1 mL Methanol	
	7632-10-02 C <sub>10</sub> H <sub>15</sub> N M.W. 149.23	M-009-1ML	1.0 µg/mL 1 mL Methanol	
S(+)-Methamphetamine (dextro-Methamphetamine)	537-46-2 C <sub>10</sub> H <sub>15</sub> N M.W. 149.23	M-020-1ML	1.0 mg/mL 1 mL Methanol	
R(-)-Methamphetamine (levo-Methamphetamine)	33817-09-3 C <sub>10</sub> H <sub>15</sub> N M.W. 149.23	M-024-1ML	1.0 mg/mL 1 mL Methanol	
(±)-Methamphetamine-D <sub>5</sub>	60124-88-1 C <sub>10</sub> H <sub>10</sub> D <sub>5</sub> N M.W. 154.26	M-004-1ML	100 µg/mL 1 mL Methanol	
	60124-88-1 C <sub>10</sub> H <sub>10</sub> D <sub>5</sub> N M.W. 154.26	M-023-1ML	1.0 mg/mL 1 mL Methanol	
(±)-Methamphetamine-D <sub>8</sub>	136765-40-7 C <sub>10</sub> H <sub>7</sub> D <sub>8</sub> N M.W. 157.28	M-016-1ML	100 µg/mL 1 mL Methanol	
	136765-40-7 C <sub>10</sub> H <sub>7</sub> D <sub>8</sub> N M.W. 157.28	M-034-1ML	1.0 mg/mL 1 mL Methanol	

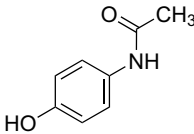
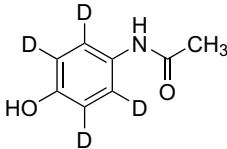
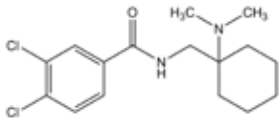
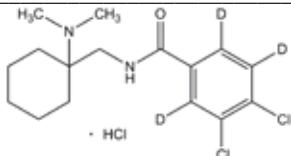
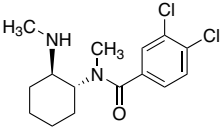
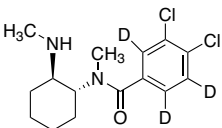
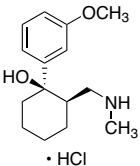
Product Name	ID	Cat. No.	Size	Structure
(±)-Methamphetamine-D <sub>9</sub>	169565-19-9 C <sub>10</sub> H <sub>6</sub> D <sub>9</sub> N M.W. 158.29	M-090-1ML	100 µg/mL 1 mL Methanol	
	169565-19-9 C <sub>10</sub> H <sub>6</sub> D <sub>9</sub> N M.W. 158.29	M-091-1ML	1.0 mg/mL 1 mL Methanol	
(±)-Methamphetamine-D <sub>11</sub>	152477-88-8 C <sub>10</sub> H <sub>4</sub> D <sub>11</sub> N M.W. 160.3	M-059-1ML	100 µg/mL 1 mL Methanol	
	152477-88-8 C <sub>10</sub> H <sub>4</sub> D <sub>11</sub> N M.W. 160.3	M-060-1ML	1.0 mg/mL 1 mL Methanol	
(±)-Methamphetamine-D <sub>14</sub>	362044-12-0 C <sub>10</sub> HD <sub>14</sub> N M.W. 163.32	M-092-1ML	100 µg/mL 1 mL Methanol	
	362044-12-0 C <sub>10</sub> HD <sub>14</sub> N M.W. 163.32	M-093-1ML	1.0 mg/mL 1 mL Methanol	
Methiopropamine HCl	7464-94-0 C <sub>8</sub> H <sub>13</sub> NS·HCl M.W. 191.72	M-164-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
(+)-Norpseudoephedrine HCl (Cathine HCl)	2153-98-2 C <sub>9</sub> H <sub>13</sub> NO·HCl M.W. 187.67	N-046-1ML	100 µg/mL (as free base) 1 mL Methanol	
(±)-Norpseudoephedrine-D <sub>3</sub> HCl	C <sub>9</sub> H <sub>10</sub> D <sub>3</sub> NO·HCl M.W. 190.69	N-087-1ML	100 µg/mL (as free base) 1 mL Methanol	
R(-)-Phenylephrine HCl	61-76-7 C <sub>9</sub> H <sub>13</sub> NO <sub>2</sub> ·HCl M.W. 203.67	P-078-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-Phenylephrine-D <sub>3</sub> HCl	61-76-7 C <sub>9</sub> H <sub>10</sub> D <sub>3</sub> NO <sub>2</sub> ·HCl M.W. 206.68	P-079-1ML	100 µg/mL (as free base) 1 mL Methanol with 5% 1M HCl	
(±)-Phenylpropanolamine HCl (Norephedrine HCl)	154-41-6 C <sub>9</sub> H <sub>13</sub> NO·HCl M.W. 187.67	P-038-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
PMA HCl (p-Methoxyamphetamine HCl)	52740-56-4 C <sub>10</sub> H <sub>15</sub> NO·HCl M.W. 201.69	P-050-1ML	1.0 mg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
PMMA HCl (p-Methoxymeth- amphetamine HCl)	3398-68-3 C <sub>11</sub> H <sub>17</sub> NO·HCl M.W. 215.72	<b>P-051-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
S,S(+)-Pseudoephedrine	90-82-4 C <sub>10</sub> H <sub>15</sub> NO M.W. 165.23	<b>P-035-1ML</b>	1.0 mg/mL 1 mL Methanol	
R,R(-)-Pseudoephedrine	321-97-1 C <sub>10</sub> H <sub>15</sub> NO M.W. 165.23	<b>P-036-1ML</b>	1.0 mg/mL 1 mL Methanol	
Pseudoephedrine-D <sub>3</sub> hydrochloride	284665-25-4 C <sub>10</sub> H <sub>12</sub> D <sub>3</sub> NO·HCl M.W. 204.71	<b>P-056-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	



## Analgesics (Non-Opiates)

Analgesics such as synthetic opioids are primarily used in the management of acute and chronic pain but are also highly susceptible to misuse and diversion. Analgesic drugs act in various ways on the peripheral and central nervous systems without inducing sleep or loss of consciousness. Commonly prescribed analgesics in the synthetic opioid class include meperidine, tramadol, and tilidine. New analgesics like tapentadol offer improved pain relief through multiple modes of action compared to the  $\mu$ -opioid receptor agonist mode of older synthetic analgesics. Many synthetic analgesics have international abuse potential and recently experienced a surge in abuse worldwide due to ambiguous control status, wide availability, and similar or greater potency than many opiates including morphine and heroin.

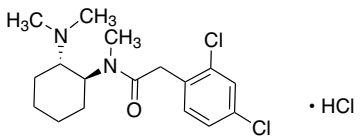
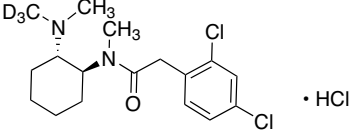
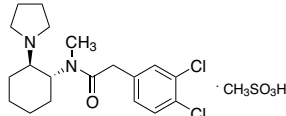
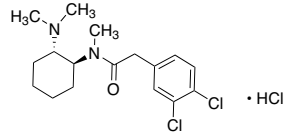
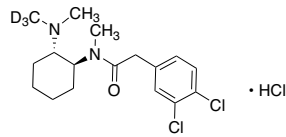
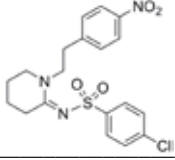
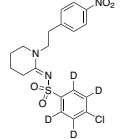
Product Name	ID	Cat. No.	Size	Structure
Acetaminophen	103-90-2 C <sub>8</sub> H <sub>9</sub> NO <sub>2</sub> M.W. 151.16	A-064-1ML	1.0 mg/mL 1 mL Methanol	
Acetaminophen-D <sub>4</sub>	64315-36-2 C <sub>8</sub> H <sub>5</sub> D <sub>4</sub> NO <sub>2</sub> M.W. 155.19	P-909-1ML	100 µg/mL 1 mL Methanol	
AH-7921 HCl	41804-96-0 C <sub>16</sub> H <sub>22</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 365.73	A-113-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
AH-7921-D <sub>3</sub> HCl	64315-36-2 C <sub>16</sub> H <sub>19</sub> D <sub>3</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 368.74	A-114-1ML	100 µg/mL (as free base) 1 mL Methanol	
N-Desmethyl U-47700	67579-73-1 C <sub>15</sub> H <sub>20</sub> Cl <sub>2</sub> N <sub>2</sub> O M.W. 315.24	D-167-1ML	1.0 mg/mL 1 mL Acetonitrile	
N-Desmethyl U-47700-D <sub>3</sub>	67579-73-1 C <sub>15</sub> H <sub>17</sub> D <sub>3</sub> Cl <sub>2</sub> N <sub>2</sub> O M.W. 318.27	D-168-1ML	100 µg/mL 1 mL Acetonitrile	
N-Desmethyl-cis-tramadol HCl	1018989-94-0 C <sub>15</sub> H <sub>23</sub> NO <sub>2</sub> ·HCl M.W. 285.81	D-023-1ML	1.0 mg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
N-Desmethyl-cis-tramadol-D <sub>3</sub> HCl	1261398-09-7	<b>D-110-1ML</b> C <sub>15</sub> H <sub>20</sub> D <sub>3</sub> NO <sub>2</sub> ·HCl M.W. 288.83	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
O-Desmethyl-cis-tramadol HCl	148262-77-5	<b>T-035-1ML</b> C <sub>15</sub> H <sub>23</sub> NO <sub>2</sub> ·HCl M.W. 285.81	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
O-Desmethyl-cis-tramadol-D <sub>6</sub> HCl	1261393-87-6	<b>D-058-1ML</b> C <sub>15</sub> H <sub>17</sub> D <sub>6</sub> NO <sub>2</sub> ·HCl M.W. 291.85	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
N-Desmethylnaltrexone	1300037-83-5	<b>D-052-1ML</b> C <sub>13</sub> H <sub>21</sub> NO M.W. 207.31	1.0 mg/mL 1 mL Methanol	
Diphenoxylate HCl	3810-80-8	<b>D-143-1ML</b> C <sub>30</sub> H <sub>32</sub> N <sub>2</sub> O <sub>2</sub> ·HCl M.W. 489.05	1.0 mg/mL ( <i>as free base</i> ) 1 mL Acetonitrile	
EDDP perchlorate	31161-17-8	<b>E-022-1ML</b> C <sub>20</sub> H <sub>24</sub> N <sup>+</sup> ·ClO <sub>4</sub> <sup>-</sup> M.W. 377.86	1.0 mg/mL ( <i>as pyrrolinium</i> ) 1 mL Methanol	
EDDP-D <sub>3</sub> perchlorate	136765-23-6	<b>E-021-1ML</b> C <sub>20</sub> H <sub>21</sub> D <sub>3</sub> N <sup>+</sup> ·ClO <sub>4</sub> <sup>-</sup> M.W. 380.88	100 µg/mL ( <i>as pyrrolinium</i> ) 1 mL Methanol	
	136765-23-6	<b>E-062-1ML</b> C <sub>20</sub> H <sub>21</sub> D <sub>3</sub> N <sup>+</sup> ·ClO <sub>4</sub> <sup>-</sup> M.W. 380.88	1.0 mg/mL ( <i>as pyrrolinium</i> ) 1.0 mL Methanol	
EMDP HCl (2-Ethyl-5-methyl-3,3-diphenylpyrrolidine)	31161-20-3	<b>E-057-1ML</b> C <sub>19</sub> H <sub>21</sub> N·HCl M.W. 299.84	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Meperidine	57-42-1	<b>M-035-1ML</b> C <sub>15</sub> H <sub>21</sub> NO <sub>2</sub> M.W. 247.33	1.0 mg/mL 1 mL Methanol	
Meperidine-D <sub>4</sub>	53484-73-4	<b>M-036-1ML</b> C <sub>15</sub> H <sub>17</sub> D <sub>4</sub> NO <sub>2</sub> M.W. 251.36	100 µg/mL 1 mL Methanol	
	53484-73-4	<b>M-038-1ML</b> C <sub>15</sub> H <sub>17</sub> D <sub>4</sub> NO <sub>2</sub> M.W. 251.36	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
(±)-Methadone	76-99-3 C <sub>21</sub> H <sub>27</sub> NO M.W. 309.45	<b>M-019-1ML</b>	100 µg/mL 1 mL Methanol	
	76-99-3 C <sub>21</sub> H <sub>27</sub> NO M.W. 309.45	<b>M-007-1ML</b>	1.0 mg/mL 1 mL Methanol	
(±)-Methadone-D <sub>3</sub>	60263-63-0 C <sub>21</sub> H <sub>24</sub> D <sub>3</sub> NO M.W. 312.46	<b>M-008-1ML</b>	100 µg/mL 1 mL Methanol	
	60263-63-0 C <sub>21</sub> H <sub>24</sub> D <sub>3</sub> NO M.W. 312.46	<b>M-021-1ML</b>	1.0 mg/mL 1 mL Methanol	
(±)-Methadone-D <sub>9</sub>	1435933-74-6 C <sub>21</sub> H <sub>18</sub> D <sub>9</sub> NO M.W. 318.5	<b>M-088-1ML</b>	100 µg/mL 1 mL Methanol	
	1435933-74-6 C <sub>21</sub> H <sub>18</sub> D <sub>9</sub> NO M.W. 318.5	<b>M-089-1ML</b>	1.0 mg/mL 1 mL Methanol	
MT-45 diHCl	57314-55-3 C <sub>24</sub> H <sub>32</sub> N <sub>2</sub> ·2HCl M.W. 421.45	<b>M-188-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Normeperidine	77-17-8 C <sub>14</sub> H <sub>19</sub> NO <sub>2</sub> M.W. 233.31	<b>N-017-1ML</b>	100 µg/mL 1 mL Methanol	
	77-17-8 C <sub>14</sub> H <sub>19</sub> NO <sub>2</sub> M.W. 233.31	<b>N-089-1ML</b>	1.0 mg/mL 1 mL Methanol	
Normeperidine-D <sub>4</sub>	160227-47-4 C <sub>14</sub> H <sub>15</sub> D <sub>4</sub> NO <sub>2</sub> M.W. 237.33	<b>N-020-1ML</b>	100 µg/mL 1 mL Methanol	
	160227-47-4 C <sub>14</sub> H <sub>15</sub> D <sub>4</sub> NO <sub>2</sub> M.W. 237.33	<b>N-083-1ML</b>	1.0 mg/mL 1 mL Methanol	
(+)-Norpropoxyphene maleate	159208-83-0 C <sub>21</sub> H <sub>27</sub> NO <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 441.52	<b>N-913-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
(±)-Norpropoxyphene-D <sub>5</sub> maleate	136765-47-4 C <sub>21</sub> H <sub>22</sub> D <sub>5</sub> NO <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 446.55	<b>N-904-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
	136765-47-4 C <sub>21</sub> H <sub>22</sub> D <sub>5</sub> NO <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 446.55	<b>N-919-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Nortilidine HCl	34596-11-7 C <sub>16</sub> H <sub>21</sub> NO <sub>2</sub> ·HCl M.W. 295.8	<b>N-061-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Nortilidine-D <sub>3</sub> HCl	1217648-75-3 C <sub>16</sub> D <sub>3</sub> H <sub>18</sub> NO <sub>2</sub> ·HCl M.W. 298.82	<b>N-062-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Pentazocine	359-83-1 C <sub>19</sub> H <sub>27</sub> NO M.W. 285.42	<b>P-073-1ML</b>	1.0 mg/mL 1 mL Methanol	
(±)-Pentazocine- <sup>13</sup> C <sub>3</sub> HCl	<sup>13</sup> C <sub>3</sub> C <sub>16</sub> H <sub>27</sub> NO·HCl M.W. 324.86	<b>P-084-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Phenacetin	62-44-2 C <sub>10</sub> H <sub>13</sub> NO <sub>2</sub> M.W. 179.22	<b>P-061-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
(+)-Propoxyphene	469-62-5 C <sub>22</sub> H <sub>29</sub> NO <sub>2</sub> M.W. 339.47	<b>P-011-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
(±)-Propoxyphene-D <sub>5</sub>	136765-49-6 C <sub>22</sub> H <sub>24</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 344.5	<b>P-901-1ML</b>	100 µg/mL 1 mL Acetonitrile	
	136765-49-6 C <sub>22</sub> H <sub>24</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 344.5	<b>P-904-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
(±)-Propoxyphene-D <sub>11</sub>	C <sub>22</sub> H <sub>18</sub> D <sub>11</sub> NO <sub>2</sub> M.W. 350.39	<b>P-913-1ML</b>	100 µg/mL 1 mL Acetonitrile	
	C <sub>22</sub> H <sub>18</sub> D <sub>11</sub> NO <sub>2</sub> M.W. 350.54	<b>P-914-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Tapentadol HCl	175591-09-0 C <sub>14</sub> H <sub>23</sub> NO·HCl M.W. 257.8	<b>T-058-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Tapentadol-β-D-glucuronide	1300037-86-8 C <sub>20</sub> H <sub>31</sub> NO <sub>7</sub> M.W. 397.46	<b>T-060-1ML</b>	100 µg/mL 1 mL 1:1 Acetonitrile:Water	

Product Name	ID	Cat. No.	Size	Structure
Tapentadol-D <sub>3</sub> HCl	1435782-38-9	<b>T-059-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
	1435782-38-9	<b>T-119-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Tapentadol-D <sub>3</sub> -β-D-glucuronide	C <sub>20</sub> H <sub>28</sub> D <sub>3</sub> NO <sub>7</sub> M.W. 400.48	<b>T-067-1ML</b>	100 µg/mL 1 mL 1:1 Acetonitrile:Water	
Tapentadol-O-sulfate	1300037-87-9 C <sub>14</sub> H <sub>23</sub> NO <sub>4</sub> S M.W. 301.4	<b>T-061-1ML</b>	100 µg/mL 1 mL Methanol	
Tilidine HCl	27107-79-5 C <sub>17</sub> H <sub>23</sub> NO <sub>2</sub> ·HCl M.W. 309.83	<b>T-068-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Tilidine-D <sub>6</sub> HCl	C <sub>17</sub> D <sub>6</sub> H <sub>17</sub> NO <sub>2</sub> ·HCl M.W. 315.87	<b>T-069-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
cis-Tramadol HCl	36282-47-0 C <sub>16</sub> H <sub>25</sub> NO <sub>2</sub> ·HCl M.W. 299.84	<b>T-027-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
cis-Tramadol- <sup>13</sup> C <sub>3</sub> D <sub>3</sub> HCl	C <sub>15</sub> <sup>13</sup> CH <sub>22</sub> D <sub>3</sub> NO <sub>2</sub> ·HCl M.W. 303.85	<b>T-029-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
	C <sub>15</sub> <sup>13</sup> CH <sub>22</sub> D <sub>3</sub> NO <sub>2</sub> ·HCl M.W. 303.85	<b>T-020-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
U-47700	82657-23-6 C <sub>16</sub> H <sub>22</sub> Cl <sub>2</sub> N <sub>2</sub> O M.W. 329.26	<b>U-003-1ML</b>	1mg/mL 1 mL Methanol	
U-47700-D <sub>3</sub>	C <sub>16</sub> H <sub>19</sub> D <sub>3</sub> Cl <sub>2</sub> N <sub>2</sub> O M.W. 332.28	<b>U-004-1ML</b>	100 ug/ml 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
U-48800 HCl		<b>U-011-1ML</b> C <sub>17</sub> H <sub>24</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 379.75	1 mg/mL (as free base) 1 mL Methanol	 · HCl
U-48800-D <sub>3</sub> HCl		<b>U-012-1ML</b> C <sub>17</sub> H <sub>21</sub> D <sub>3</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 382.77	100 µg/mL (as free base) 1 mL Methanol	 · HCl
U-50488 mesylate	83913-06-8	<b>U-007-1ML</b> C <sub>19</sub> H <sub>26</sub> Cl <sub>2</sub> N <sub>2</sub> O·CH <sub>3</sub> SO <sub>3</sub> H M.W. 465.43	1 mg/mL (as free base) 1 mL Methanol	 · CH <sub>3</sub> SO <sub>3</sub> H
U-51754 HCl	121279-74-1	<b>U-005-1ML</b> C <sub>17</sub> H <sub>24</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 379.75	1 mg/mL (as free base) 1 mL Methanol	 · HCl
U-51754-D <sub>3</sub> HCl		<b>U-006-1ML</b> C <sub>17</sub> H <sub>21</sub> D <sub>3</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 382.77	100 µg/mL (as free base) 1 mL Methanol	 · HCl
W-18	93101-02-1	<b>W-004-1ML</b> C <sub>19</sub> H <sub>20</sub> ClN <sub>3</sub> O <sub>4</sub> S M.W. 421.9	1 mg/mL 1 mL Acetonitrile	
W-18-D <sub>4</sub>		<b>W-005-1ML</b> C <sub>19</sub> H <sub>16</sub> D <sub>4</sub> ClN <sub>3</sub> O <sub>4</sub> S M.W. 425.92	100 µg/mL 1 mL Acetonitrile	

## Anesthetics

Anesthetics are a group of drugs used for both induction and maintenance of anesthesia as well as for pre-operative sedation. These drugs possess a high potential for addiction and physical dependence and abuse of anesthetics such as propofol and lidocaine is a major issue among health professionals. Recreational abuse of anesthetic drugs and related designer analogs including ketamine,  $\gamma$ -hydroxybutyrate (GHB) and lidocaine have steadily increased around the world. The rise is attributed to their wide availability through online clandestine drug markets and their popularity as club drugs.

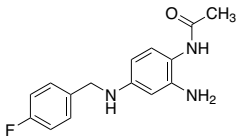
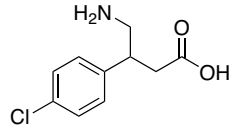
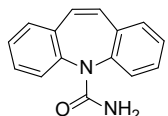
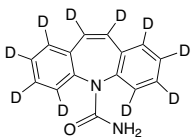
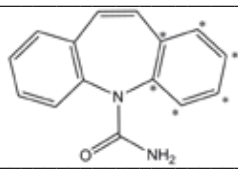
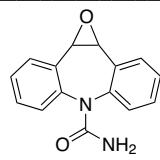
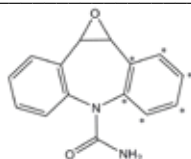
Product Name	ID	Cat. No.	Size	Structure
Dehydronorketamine HCl	1435934-26-1 C <sub>12</sub> H <sub>12</sub> ClNO·HCl M.W. 258.14	<b>D-046-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Acetonitrile	
Deschloroketamine HCl	4631-27-0 C <sub>13</sub> H <sub>17</sub> NO·HCl M.W. 239.74	<b>D-172-1ML</b>	1 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
GHB sodium salt	502-85-2 C <sub>4</sub> H <sub>7</sub> O <sub>3</sub> Na M.W. 126.09	<b>G-001-1ML</b>	1.0 mg/mL ( <i>as salt</i> ) 1 mL Methanol	
GHB-D <sub>6</sub> sodium salt	362049-53-4 C <sub>4</sub> HD <sub>6</sub> O <sub>3</sub> Na M.W. 132.12	<b>G-003-1ML</b>	100 µg/mL ( <i>as salt</i> ) 1 mL Methanol	
	362049-53-4 C <sub>4</sub> HD <sub>6</sub> O <sub>3</sub> Na M.W. 132.12	<b>G-006-1ML</b>	1.0 mg/mL ( <i>as salt</i> ) 1 mL Methanol	
Hydroxynorketamine HCl	1246815-97-3 C <sub>12</sub> H <sub>14</sub> ClNO <sub>2</sub> ·HCl M.W. 276.16	<b>H-134-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Ketamine HCl	1867-66-9 C <sub>13</sub> H <sub>16</sub> ClNO·HCl M.W. 274.19	<b>K-002-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Ketamine-D <sub>4</sub> HCl	1246815-97-3 C <sub>13</sub> H <sub>12</sub> D <sub>4</sub> ClNO·HCl M.W. 278.21	<b>K-003-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
	1246815-97-3 C <sub>13</sub> H <sub>12</sub> D <sub>4</sub> ClNO·HCl M.W. 278.21	<b>K-006-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Lidocaine	137-58-6 C <sub>14</sub> H <sub>22</sub> N <sub>2</sub> O M.W. 234.34	<b>L-018-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Lidocaine-D <sub>10</sub>	851528-09-1 C <sub>14</sub> H <sub>12</sub> D <sub>10</sub> N <sub>2</sub> O M.W. 244.4	L-050-1ML	100 µg/mL 1 mL Methanol	
(±)-Norketamine HCl	79499-59-5 C <sub>12</sub> H <sub>14</sub> ClNO·HCl M.W. 260.16	N-036-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-Norketamine-D <sub>4</sub> HCl	79499-59-5 C <sub>12</sub> H <sub>10</sub> ClD <sub>4</sub> NO·HCl M.W. 264.18	N-037-1ML	100 µg/mL (as free base) 1 mL Methanol	
Norlidocaine	7728-40-7 C <sub>12</sub> H <sub>18</sub> N <sub>2</sub> O M.W. 206.28	N-124-1ML	1 mg/mL 1 mL Methanol	
Propofol	2078-54-8 C <sub>12</sub> H <sub>18</sub> O M.W. 178.27	P-076-1ML	1.0 mg/mL 1 mL Methanol	
Propofol β-D-glucuronide sodium salt	1435779-10-4 C <sub>18</sub> H <sub>25</sub> O <sub>7</sub> Na M.W. 376.38	P-082-1ML	100 µg/mL (as free acid) 1 mL Methanol	
Propofol-D <sub>15</sub>	1261393-54-7 C <sub>12</sub> HD <sub>17</sub> O M.W. 195.38	P-077-1ML	100 µg/mL 1 mL Methanol	



## Anticonvulsants/Antiepileptics

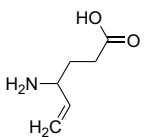
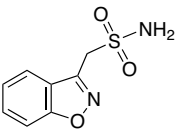
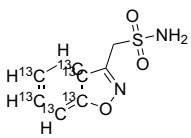
Anticonvulsants, or antiepileptics (AEDs), are a structurally diverse category of drugs used for the treatment of partial and generalized seizures and epilepsy. Antiepileptics have also shown therapeutic efficacy in the management of mood disorders, borderline personality disorder and neuropathic pain. Today, second generation antiepileptics such as levetiracetam, gabapentin, pregabalin, rufinamide, retigabine, and lacosamide have largely supplanted first generation antiepileptics such as phenytoin, valproic acid, and barbiturates which have historically been used to treat seizure disorders. In contrast to first generation AEDs, second generation antiepileptics have a wider gap between therapeutic and toxic serum concentrations and exhibit fewer side effects. Since the frequency, intensity, and type of seizure disease vary among patients, therapeutic drug monitoring (TDM) of antiepileptics is performed to optimize drug efficacy while keeping dosages within the therapeutic range. Routine analytical testing of antiepileptics is also useful in assessing compliance, evaluating overdose, and determining drug-drug interactions.

Product Name	ID	Cat. No.	Size	Structure
N-Acetylretigabine	229970-68-7 C <sub>15</sub> H <sub>16</sub> FN <sub>3</sub> O M.W. 273.31	A-105-1ML	100 µg/mL 1 mL Acetonitrile	
Brivaracetam-D <sub>3</sub>	C <sub>11</sub> H <sub>17</sub> D <sub>3</sub> N <sub>2</sub> O <sub>2</sub> M.W. 215.31	B-063-1ML	100 µg/mL 1 mL Methanol	
Carbamazepine	298-46-4 C <sub>15</sub> H <sub>12</sub> N <sub>2</sub> O M.W. 236.27	C-053-1ML	1.0 mg/mL 1 mL Methanol	
Carbamazepine-D <sub>10</sub>	132183-78-9 C <sub>15</sub> H <sub>12</sub> D <sub>10</sub> N <sub>2</sub> O M.W. 246.33	C-094-1ML	100 µg/mL 1 mL Methanol	
Carbamazepine- <sup>13</sup> C <sub>6</sub>	<sup>13</sup> C <sub>6</sub> H <sub>12</sub> N <sub>2</sub> O M.W. 242.22	C-136-1ML	100 µg/mL 1 mL Methanol	
Carbamazepine-10,11-epoxide	36507-30-9 C <sub>15</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub> M.W. 252.27	C-121-1ML	1.0 mg/mL 1 mL Methanol	
Carbamazepine-10,11-epoxide- <sup>13</sup> C <sub>6</sub>	<sup>13</sup> C <sub>6</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub> M.W. 258.22	C-128-1ML	100 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
(±)-10,11-Dihydro-10-Hydroxycarbamazepine	29331-92-8 C <sub>15</sub> H <sub>14</sub> N <sub>2</sub> O <sub>2</sub> M.W. 254.28	D-091-1ML	1.0 mg/mL 1 mL Acetonitrile	
(±)-10,11-Dihydro-10-Hydroxycarbamazepine- <sup>13</sup> C <sub>6</sub>	<sup>13</sup> C <sub>6</sub> C <sub>9</sub> H <sub>14</sub> N <sub>2</sub> O <sub>2</sub> M.W. 260.24	D-104-1ML	100 µg/mL 1 mL Acetonitrile	
Felbamate	25451-15-4 C <sub>11</sub> H <sub>14</sub> N <sub>2</sub> O <sub>4</sub> M.W. 238.24	F-029-1ML	2.0 mg/mL 1 mL Methanol	
Gabapentin	60142-96-3 C <sub>9</sub> H <sub>17</sub> NO <sub>2</sub> M.W. 171.24	G-007-1ML	1.0 mg/mL 1 mL Methanol	
	60142-96-3 C <sub>9</sub> H <sub>17</sub> NO <sub>2</sub> M.W. 171.24	G-021-1ML	10 mg/mL 1 mL Methanol	
Gabapentin-D <sub>10</sub>	1126623-20-8 C <sub>9</sub> H <sub>10</sub> D <sub>10</sub> NO <sub>2</sub> M.W. 181.3	G-901-1ML	100 µg/mL 1 mL Methanol	
	1126623-20-8 C <sub>9</sub> H <sub>10</sub> D <sub>10</sub> NO <sub>2</sub> M.W. 181.3	G-017-1ML	1.0 mg/mL 1 mL Methanol	
Gabapentin- <sup>13</sup> C <sub>3</sub>	C <sub>6</sub> <sup>13</sup> C <sub>3</sub> H <sub>17</sub> NO <sub>2</sub> M.W. 174.21	G-018-1ML	100 µg/mL 1 mL Methanol	
Lacosamide	175481-36-4 C <sub>13</sub> H <sub>18</sub> N <sub>2</sub> O <sub>3</sub> M.W. 250.29	L-029-1ML	1.0 mg/mL 1 mL Acetonitrile	
Lacosamide- <sup>13</sup> C <sub>3</sub> D <sub>3</sub>	<sup>13</sup> CC <sub>12</sub> D <sub>3</sub> H <sub>15</sub> N <sub>2</sub> O <sub>3</sub> M.W. 254.3	L-027-1ML	100 µg/mL 1 mL Acetonitrile	
	<sup>13</sup> CC <sub>12</sub> D <sub>3</sub> H <sub>15</sub> N <sub>2</sub> O <sub>3</sub> M.W. 254.3	L-032-1ML	1.0 mg/mL 1 mL Acetonitrile	
Lamotrigine	84057-84-1 C <sub>9</sub> H <sub>7</sub> Cl <sub>2</sub> N <sub>5</sub> M.W. 256.09	L-019-1ML	1.0 mg/mL 1 mL Methanol	
Lamotrigine- <sup>13</sup> C, <sup>15</sup> N <sub>4</sub>	<sup>13</sup> CC <sub>8</sub> H <sub>7</sub> Cl <sub>2</sub> N <sub>5</sub> <sup>15</sup> N <sub>4</sub> M.W. 261.06	L-022-1ML	500 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Levetiracetam	102767-28-2 C <sub>8</sub> H <sub>14</sub> N <sub>2</sub> O <sub>2</sub> M.W. 170.21	L-020-1ML	1.0 mg/mL 1 mL Methanol	
Levetiracetam-D <sub>6</sub>	1435933-72-4 C <sub>8</sub> H <sub>8</sub> D <sub>6</sub> N <sub>2</sub> O <sub>2</sub> M.W. 176.25	L-023-1ML	100 µg/mL 1 mL Methanol	
	1435933-72-4 C <sub>8</sub> H <sub>8</sub> D <sub>6</sub> N <sub>2</sub> O <sub>2</sub> M.W. 176.25	L-031-1ML	1.0 mg/mL 1 mL Methanol	
Oxcarbazepine	28721-07-5 C <sub>15</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub> M.W. 252.27	O-025-1ML	1.0 mg/mL 1 mL Acetonitrile	
Oxcarbazepine- <sup>13</sup> C <sub>6</sub>	<sup>13</sup> C <sub>6</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub> M.W. 258.22	O-039-1ML	100 µg/mL 1 mL Acetonitrile	
Perampanel-D <sub>4</sub>	C <sub>23</sub> H <sub>11</sub> D <sub>4</sub> N <sub>3</sub> O M.W. 353.41	P-116-1ML	100 µg/mL 1 mL Methanol	
Phenytoin	57-41-0 C <sub>15</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub> M.W. 252.27	P-063-1ML	1.0 mg/mL 1 mL Methanol	
Phenytoin-D <sub>10</sub>	65854-97-9 C <sub>15</sub> H <sub>2</sub> D <sub>10</sub> N <sub>2</sub> O <sub>2</sub> M.W. 262.33	P-067-1ML	100 µg/mL 1 mL Methanol	
Pregabalin	148553-50-8 C <sub>8</sub> H <sub>17</sub> NO <sub>2</sub> M.W. 159.23	P-066-1ML	1.0 mg/mL 1 mL Methanol	
	148553-50-8 C <sub>8</sub> H <sub>17</sub> NO <sub>2</sub> M.W. 159.23	P-120-1ML	10 mg/mL 1 mL water	
Pregabalin-D <sub>6</sub>	C <sub>8</sub> D <sub>6</sub> H <sub>11</sub> NO <sub>2</sub> M.W. 165.26	P-072-1ML	100 µg/mL 1 mL Methanol	
	C <sub>8</sub> D <sub>6</sub> H <sub>11</sub> NO <sub>2</sub> M.W. 165.26	P-096-1ML	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Pregabalin- <sup>13</sup> C <sub>3</sub>	1189980-48-0 C <sub>5</sub> <sup>13</sup> C <sub>3</sub> H <sub>17</sub> NO <sub>2</sub> M.W. 162.2	<b>P-106-1ML</b>	100 µg/mL 1 mL Methanol	
Retigabine	150812-12-7 C <sub>16</sub> H <sub>18</sub> FN <sub>3</sub> O <sub>2</sub> M.W. 303.33	<b>R-018-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Retigabine-D <sub>4</sub>	C <sub>16</sub> H <sub>14</sub> D <sub>4</sub> FN <sub>3</sub> O <sub>2</sub> M.W. 307.36	<b>R-019-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Rufinamide	106308-44-5 C <sub>10</sub> H <sub>8</sub> F <sub>2</sub> N <sub>4</sub> O M.W. 238.19	<b>R-023-1ML</b>	1.0 mg/mL 1 mL 90:10 Acetonitrile:Methanol	
Tiagabine HCl	145821-59-6 C <sub>20</sub> H <sub>25</sub> NO <sub>2</sub> S <sub>2</sub> ·HCl M.W. 412.01	<b>T-081-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Tiagabine-D <sub>6</sub> HCl	1217808-68-8 C <sub>20</sub> H <sub>19</sub> D <sub>6</sub> NO <sub>2</sub> S <sub>2</sub> ·HCl M.W. 418.05	<b>T-082-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Topiramate	97240-79-4 C <sub>12</sub> H <sub>21</sub> NO <sub>6</sub> S M.W. 339.36	<b>T-039-1ML</b>	1.0 mg/mL 1 mL Methanol	
Topiramate-D <sub>12</sub>	1279037-95-4 C <sub>12</sub> H <sub>9</sub> D <sub>12</sub> NO <sub>6</sub> S M.W. 351.44	<b>T-041-1ML</b>	100 µg/mL 1 mL Methanol	
Valproic acid	99-66-1 C <sub>8</sub> H <sub>16</sub> O <sub>2</sub> M.W. 144.21	<b>V-006-1ML</b>	1.0 mg/mL 1 mL Methanol	
Valproic acid-D <sub>6</sub>	87745-18-4 C <sub>8</sub> H <sub>10</sub> D <sub>6</sub> O <sub>2</sub> M.W. 150.25	<b>V-029-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Vigabatrin	60643-86-9 C <sub>8</sub> H <sub>11</sub> NO <sub>2</sub> M.W. 129.16	V-022-1ML	1.0 mg/mL 1 mL Methanol	
Zonisamide	68291-97-4 C <sub>8</sub> H <sub>8</sub> N <sub>2</sub> O <sub>3</sub> S M.W. 212.23	Z-005-1ML	1.0 mg/mL 1 mL Methanol	
Zonisamide- <sup>13</sup> C <sub>6</sub>	1435934-68-1 <sup>13</sup> C <sub>6</sub> C <sub>2</sub> H <sub>8</sub> N <sub>2</sub> O <sub>3</sub> S M.W. 218.18	Z-006-1ML	100 µg/mL 1 mL Methanol	

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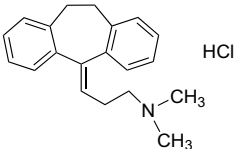
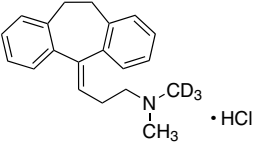
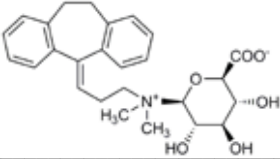
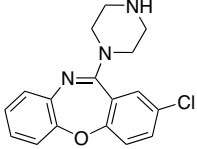
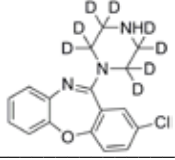
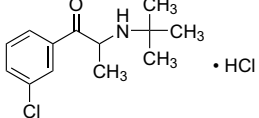
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## Antidepressants

Antidepressants are drugs used to treat major depressive disorder and other conditions, including anxiety disorders, chronic pain conditions (off-label use), and to help manage addictions. Common side-effects of antidepressants include dry mouth, weight gain, dizziness, headaches, and sexual dysfunction. Depression is a psychiatric condition that affects an estimated 350 million people worldwide and can impair an individual's ability to take care of their everyday responsibilities. Widely used to manage depression and related mood disorders, antidepressants may be grouped into major classes consisting of selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRIs), tricyclics (TCAs), monoamine oxidase inhibitors (MAOIs), and tetracyclics. Antidepressants have expanded in use with prescription rates increasing worldwide. Explanations for rising antidepressant use include increased cultural acceptance of antidepressants and extended efficacy of antidepressants for multiple health conditions. Since antidepressants can impair cognitive and psychomotor function and may increase the risk of driving accidents or voluntary intoxication, they are routinely analyzed in forensic or clinical toxicology applications using mass spectrometry methods. In a clinical setting, therapeutic drug monitoring (TDM) of tricyclic antidepressants may be performed to reduce drug-drug interactions, to monitor patient compliance, and to optimize dosing within the drug's therapeutic range.

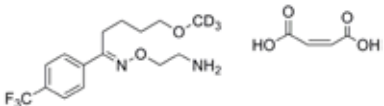
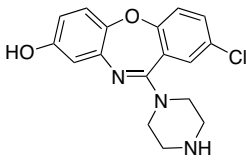
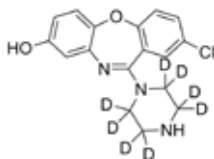
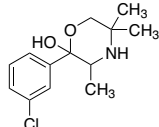
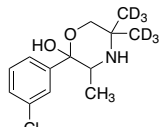
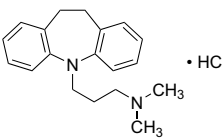
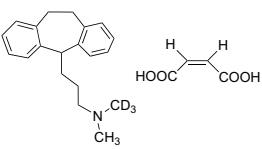
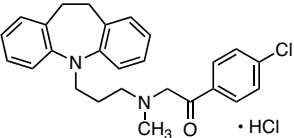
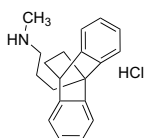
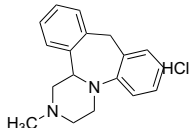
Product Name	ID	Cat. No.	Size	Structure
Amitriptyline HCl	549-18-8 C <sub>20</sub> H <sub>23</sub> N·HCl M.W. 313.86	<b>A-923-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	 HCl
Amitriptyline-D <sub>3</sub> HCl	342611-00-1 C <sub>20</sub> H <sub>20</sub> D <sub>3</sub> N·HCl M.W. 316.88	<b>A-085-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Amitriptyline N-B-D-glucuronide	112806-33-4 C <sub>26</sub> H <sub>31</sub> NO <sub>6</sub> M.W. 453.53	<b>A-128-1ML</b>	100 µg/mL 1 mL 1:1 Acetonitrile:Water	
Amoxapine	14028-44-5 C <sub>17</sub> H <sub>16</sub> ClN <sub>3</sub> O M.W. 313.78	<b>A-123-1ML</b>	1.0 mg/mL 1 mL Methanol	
Amoxapine-D <sub>8</sub>	1189671-27-9 C <sub>17</sub> H <sub>8</sub> D <sub>8</sub> ClN <sub>3</sub> O M.W. 321.83	<b>A-158-1ML</b>	100 µg/mL 1 mL Methanol	
Bupropion HCl	31677-93-7 C <sub>13</sub> H <sub>18</sub> ClNO·HCl M.W. 276.20	<b>B-034-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	 · HCl

Product Name	ID	Cat. No.	Size	Structure
(±)-Bupropion-D <sub>9</sub> HCl	1189725-26-5 C <sub>13</sub> H <sub>9</sub> D <sub>9</sub> ClNO·HCl M.W. 285.26	<b>B-052-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Buspirone HCl	33386-08-2 C <sub>21</sub> H <sub>31</sub> N <sub>5</sub> O <sub>2</sub> ·HCl M.W. 421.96	<b>B-054-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Buspirone-D <sub>8</sub> HCl	204395-49-3 C <sub>21</sub> H <sub>23</sub> D <sub>8</sub> N <sub>5</sub> O <sub>2</sub> ·HCl M.W. 430.01	<b>B-055-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Citalopram HBr	59729-32-7 C <sub>20</sub> H <sub>21</sub> FN <sub>2</sub> O·HBr M.W. 405.30	<b>C-057-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Citalopram-D <sub>6</sub> HBr	1190003-26-9 C <sub>20</sub> D <sub>6</sub> H <sub>15</sub> FN <sub>2</sub> O·HBr M.W. 411.34	<b>C-095-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Clomipramine HCl	17321-77-6 C <sub>19</sub> H <sub>23</sub> ClN <sub>2</sub> ·HCl M.W. 351.31	<b>C-118-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Clomipramine-D <sub>3</sub> HCl	1398065-86-5 C <sub>19</sub> H <sub>20</sub> ClD <sub>3</sub> N <sub>2</sub> ·HCl M.W. 354.33	<b>C-116-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Desipramine HCl	58-28-6 C <sub>18</sub> H <sub>22</sub> N <sub>2</sub> ·HCl M.W. 302.84	<b>D-906-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Desipramine-D <sub>3</sub> HCl	1435934-62-5 C <sub>18</sub> H <sub>19</sub> D <sub>3</sub> N <sub>2</sub> ·HCl M.W. 305.86	<b>D-903-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
	1435934-62-5 C <sub>18</sub> H <sub>19</sub> D <sub>3</sub> N <sub>2</sub> ·HCl M.W. 305.86	<b>D-116-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
N-Desmethylcitalopram HCl	144025-14-9 C <sub>19</sub> H <sub>19</sub> FN <sub>2</sub> O·HCl M.W. 346.83	<b>D-047-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	

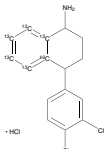
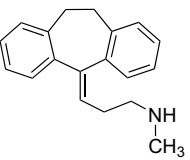
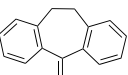
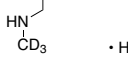
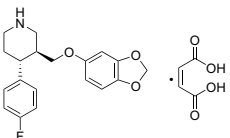
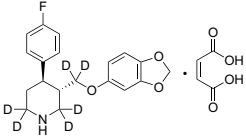
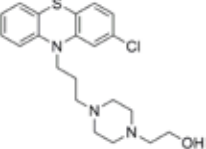
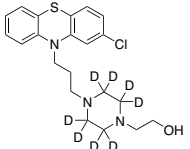
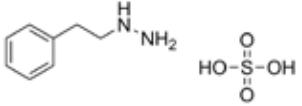
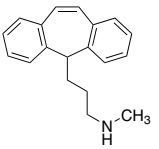
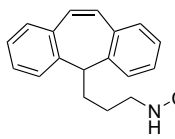
Product Name	ID	Cat. No.	Size	Structure
N-Desmethylocitalopram-D <sub>3</sub> HCl	C <sub>19</sub> H <sub>16</sub> D <sub>3</sub> FN <sub>2</sub> O·HCl M.W. 349.84	<b>D-074-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
N-Desmethylclomipramine HCl	29854-14-6 C <sub>18</sub> H <sub>21</sub> ClN <sub>2</sub> ·HCl M.W. 337.29	<b>D-916-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
N-Desmethylclomipramine-D <sub>3</sub> HCl	1189971-04-7 C <sub>18</sub> H <sub>18</sub> D <sub>3</sub> ClN <sub>2</sub> ·HCl M.W. 340.31	<b>D-113-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Desmethyldoxepin (cis/trans)	1225-56-5 C <sub>18</sub> H <sub>19</sub> NO M.W. 265.35	<b>D-007-1ML</b>	1.0 mg/mL 1 mL Methanol	
N-Desmethyldoxepin-D <sub>3</sub> HCl (cis/trans)	1331665-54-3 C <sub>18</sub> H <sub>16</sub> D <sub>3</sub> NO·HCl M.W. 304.83	<b>D-075-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Desmethylene Paroxetine HCl	1394861-12-1 C <sub>18</sub> H <sub>20</sub> FNO <sub>3</sub> ·HCl M.W. 353.82	<b>D-084-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol with 5% 1N HCl	
N-Desmethylmirtazapine	61337-68-6 C <sub>16</sub> H <sub>17</sub> N <sub>3</sub> M.W. 251.33	<b>D-086-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
(±)-N-Desmethylelegiline	18913-84-3 C <sub>12</sub> H <sub>15</sub> N M.W. 173.25	<b>D-012-1ML</b>	1.0 mg/mL 1 mL Methanol	
N-Desmethyltrimipramine maleate	67341-71-3 C <sub>19</sub> H <sub>24</sub> N <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 396.48	<b>D-920-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
N-Desmethyltrimipramine-D <sub>3</sub> HCl	C <sub>19</sub> H <sub>21</sub> D <sub>3</sub> N <sub>2</sub> ·HCl M.W. 319.89	<b>D-114-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	

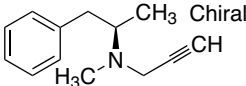
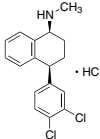
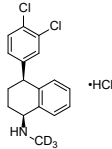
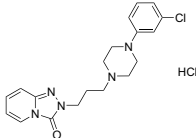
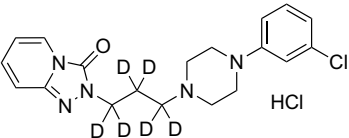
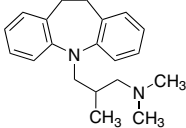
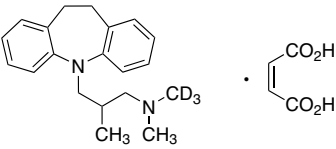
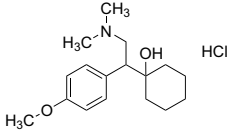
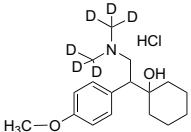
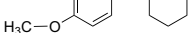
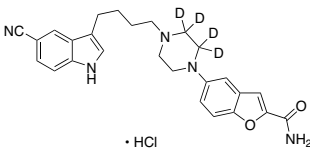


Product Name	ID	Cat. No.	Size	Structure
O-Desmethylvenlafaxine	93413-62-8	V-007-1ML	100 µg/mL 1 mL Methanol	
	93413-62-8	V-045-1ML	1.0 mg/mL 1 mL Methanol	
(±)-O-Desmethylvenlafaxine-D <sub>6</sub>	1062605-69-9	V-027-1ML	100 µg/mL 1 mL Methanol	
Dothiepin HCl (cis/trans)	897-15-4 C <sub>19</sub> H <sub>21</sub> NS·HCl M.W. 331.90	D-173-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Doxepin HCl (cis/trans)	1229-29-4 C <sub>19</sub> H <sub>21</sub> NO·HCl M.W. 315.84	D-927-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Doxepin-D <sub>3</sub> HCl (cis/trans)	347840-07-7	D-060-1ML	100 µg/mL (as free base) 1 mL Methanol	
	347840-07-7	D-115-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Duloxetine HCl	136434-34-9 C <sub>18</sub> H <sub>19</sub> NOS·HCl M.W. 333.88	D-044-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Duloxetine-D <sub>3</sub> HCl	136434-34-9 C <sub>18</sub> H <sub>16</sub> D <sub>3</sub> NOS·HCl M.W. 336.89	D-068-1ML	100 µg/mL (as free base) 1 mL Methanol	
Fluoxetine HCl	56296-78-7 C <sub>17</sub> H <sub>18</sub> F <sub>3</sub> NO·HCl M.W. 345.79	F-918-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Fluoxetine-D <sub>6</sub> Oxalate	56296-78-7	F-919-1ML	100 µg/mL (as free base) 1 mL Methanol	
	56296-78-7	F-038-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Fluvoxamine maleate	61718-82-9 C <sub>15</sub> H <sub>21</sub> F <sub>3</sub> N <sub>2</sub> O <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 434.41	F-040-1ML	1.0 mg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Fluvoxamine-D <sub>3</sub> maleate	1185245-56-0 C <sub>15</sub> H <sub>18</sub> D <sub>3</sub> F <sub>3</sub> N <sub>2</sub> O <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 437.43	<b>F-045-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
8-Hydroxy Amoxapine	61443-78-5 C <sub>17</sub> H <sub>16</sub> ClN <sub>3</sub> O <sub>2</sub> M.W. 329.78	<b>H-118-1ML</b>	1.0 mg/mL 1 mL Methanol	
8-Hydroxy Amoxapine-D <sub>8</sub>	1189505-24-5 C <sub>17</sub> H <sub>8</sub> D <sub>8</sub> ClN <sub>3</sub> O <sub>2</sub> M.W. 337.83	<b>H-131-1ML</b>	100 µg/mL 1 mL Methanol	
(±)-Hydroxybupropion	92264-81-8 C <sub>13</sub> H <sub>18</sub> ClNO <sub>2</sub> M.W. 255.74	<b>H-066-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
(±)-Hydroxybupropion-D <sub>6</sub>	1184984-06-2 C <sub>13</sub> H <sub>12</sub> D <sub>6</sub> ClNO <sub>2</sub> M.W. 261.78	<b>H-062-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Imipramine HCl	113-52-0 C <sub>19</sub> H <sub>24</sub> N <sub>2</sub> ·HCl M.W. 316.87	<b>I-902-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Imipramine-D <sub>3</sub> maleate	112898-42-7 C <sub>19</sub> H <sub>21</sub> D <sub>3</sub> N <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 399.50	<b>I-903-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Lofepramine HCl	26786-32-3 C <sub>26</sub> H <sub>27</sub> ClN <sub>2</sub> O·HCl M.W. 455.42	<b>L-041-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL 1% 1M HCl in Methanol	
Maprotiline HCl	10347-81-6 C <sub>20</sub> H <sub>23</sub> N·HCl M.W. 313.87	<b>M-920-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Mianserin HCl	21535-47-7 C <sub>18</sub> H <sub>20</sub> N <sub>2</sub> ·HCl M.W. 300.83	<b>M-919-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Mianserin-D <sub>3</sub>	81957-76-8 C <sub>18</sub> H <sub>17</sub> D <sub>3</sub> N <sub>2</sub> M.W. 267.38	M-901-1ML	100 µg/mL 1 mL Methanol	
Milnacipran HCl	101152-94-7 C <sub>15</sub> H <sub>22</sub> N <sub>2</sub> O·HCl M.W. 282.81	M-145-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Milnacipran-D <sub>10</sub> HCl	1217774-40-7 C <sub>15</sub> H <sub>13</sub> D <sub>10</sub> ClN <sub>2</sub> O M.W. 292.87	M-209-1ML	100 µg/mL as free base 1 mL Methanol	
Mirtazapine	85650-52-8 C <sub>17</sub> H <sub>19</sub> N <sub>3</sub> M.W. 265.35	M-128-1ML	1.0 mg/mL 1 mL Methanol	
Mirtazapine-D <sub>3</sub>	1216678-68-0 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> N <sub>3</sub> M.W. 268.37	M-191-1ML	100 µg/mL 1 mL Methanol	
Nefazodone HCl	82752-99-6 C <sub>25</sub> H <sub>32</sub> ClN <sub>5</sub> O <sub>2</sub> ·HCl M.W. 470.01	N-119-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Nordothiepin HCl (cis/trans)	844-12-2 C <sub>18</sub> H <sub>19</sub> NS·HCl M.W. 317.88	N-122-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Norfluoxetine Oxalate	107674-50-0 C <sub>16</sub> H <sub>16</sub> F <sub>3</sub> NO·C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> M.W. 385.33	N-923-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Norfluoxetine-D <sub>6</sub> Oxalate	107674-50-0 C <sub>16</sub> H <sub>10</sub> D <sub>6</sub> F <sub>3</sub> NO·C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> M.W. 391.37	N-922-1ML	100 µg/mL (as free base) 1 mL Methanol	
		N-102-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Norsertaline HCl	91797-57-8 C <sub>16</sub> H <sub>15</sub> Cl <sub>2</sub> N·HCl M.W. 328.66	N-049-1ML	100 µg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Norserttraline- <sup>13</sup> C <sub>6</sub> HCl	<sup>13</sup> C <sub>6</sub> C <sub>10</sub> H <sub>15</sub> NCl <sub>2</sub> ·HCl M.W. 334.62	<b>N-084-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Nortriptyline HCl	894-71-3 C <sub>19</sub> H <sub>21</sub> N·HCl M.W. 299.84	<b>N-907-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	 HCl
Nortriptyline-D <sub>3</sub> HCl	136765-48-5 C <sub>19</sub> H <sub>18</sub> D <sub>3</sub> N·HCl M.W. 302.86	<b>N-902-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Nortriptyline-D <sub>3</sub> HCl	136765-48-5 C <sub>19</sub> H <sub>18</sub> D <sub>3</sub> N·HCl M.W. 302.86	<b>N-090-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	 · HCl
Paroxetine maleate	64006-44-6 C <sub>19</sub> H <sub>20</sub> FNO <sub>3</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 445.44	<b>P-916-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Paroxetine-D <sub>6</sub> maleate	1435728-64-5 C <sub>19</sub> H <sub>14</sub> D <sub>6</sub> FNO <sub>3</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 451.47	<b>P-915-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Perphenazine	58-39-9 C <sub>21</sub> H <sub>26</sub> ClN <sub>3</sub> OS M.W. 403.97	<b>P-130-1ML</b>	1.0 mg/mL 1 mL Methanol	
Perphenazine-D <sub>8</sub>	1189961-11-2 C <sub>21</sub> H <sub>18</sub> ClD <sub>8</sub> N <sub>3</sub> OS M.W. 412.02	<b>P-131-1ML</b>	100 µg/mL 1 mL Methanol	
Phenelzine Sulfate	156-51-4 C <sub>8</sub> H <sub>12</sub> N <sub>2</sub> ·H <sub>2</sub> SO <sub>4</sub> M.W. 136.19	<b>P-139-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL 0.1% 1M HCl in Methanol	
Protriptyline HCl	1225-55-4 C <sub>19</sub> H <sub>21</sub> N·HCl M.W. 299.84	<b>P-903-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	 · HCl
Protriptyline-D <sub>3</sub> HCl	1435934-21-6 C <sub>19</sub> H <sub>18</sub> D <sub>3</sub> N·HCl M.W. 302.86	<b>P-088-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	 · HCl

Product Name	ID	Cat. No.	Size	Structure
R(-)-Selegiline [(-)-Deprenyl]	14611-51-9 C <sub>13</sub> H <sub>17</sub> N M.W. 187.28	S-003-1ML	1.0 mg/mL 1 mL Methanol	
Sertraline HCl	79559-97-0 C <sub>17</sub> H <sub>17</sub> Cl <sub>2</sub> N·HCl M.W. 342.69	S-021-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Sertraline-D <sub>3</sub> HCl	1181578-71-1 C <sub>17</sub> H <sub>14</sub> D <sub>3</sub> Cl <sub>2</sub> N·HCl M.W. 345.71	S-026-1ML	100 µg/mL (as free base) 1 mL Methanol	
Trazodone HCl	25332-39-2 C <sub>19</sub> H <sub>22</sub> ClN <sub>5</sub> O·HCl M.W. 408.32	T-030-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Trazodone-D <sub>6</sub> HCl	1181578-71-1 C <sub>19</sub> H <sub>16</sub> D <sub>6</sub> ClN <sub>5</sub> O·HCl M.W. 414.36	T-079-1ML	100 µg/mL (as free base) 1 mL Methanol	
Trimipramine	739-71-9 C <sub>20</sub> H <sub>26</sub> N <sub>2</sub> M.W. 294.43	T-904-1ML	1.0 mg/mL 1 mL Methanol	
Trimipramine-D <sub>3</sub> maleate	1185245-93-5 C <sub>20</sub> H <sub>23</sub> D <sub>3</sub> N <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 413.52	T-071-1ML	100 µg/mL (as free base) 1 mL Methanol	
Venlafaxine hydrochloride	99300-78-4 C <sub>17</sub> H <sub>27</sub> NO <sub>2</sub> ·HCl M.W. 313.86	V-004-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Venlafaxine-D <sub>6</sub> HCl	1062606-12-5 C <sub>17</sub> H <sub>21</sub> D <sub>6</sub> NO <sub>2</sub> ·HCl M.W. 319.90	V-009-1ML	100 µg/mL (as free base) 1 mL Methanol	
Vilazodone-D <sub>4</sub> HCl	1062606-12-5 C <sub>17</sub> H <sub>21</sub> D <sub>6</sub> NO <sub>2</sub> ·HCl M.W. 319.90	V-037-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Vilazodone-D <sub>4</sub> HCl	1062606-12-5 C <sub>26</sub> H <sub>23</sub> D <sub>4</sub> N <sub>5</sub> O <sub>2</sub> ·HCl M.W. 482.01	V-028-1ML	100 µg/mL (as free base) 1 mL Methanol	

# Ascentis® Express UHPLC and HPLC Columns

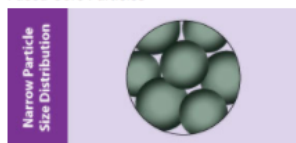
**Designed to deliver speed and resolution**

The Fused-Core® technology behind our Ascentis® Express columns delivers maximum speed and efficiency on both UHPLC and HPLC systems.

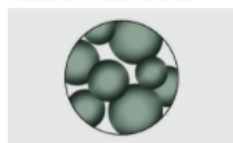
## Key Features and Benefits

- Maximize speed with sharp peaks even at ultra-high flow rates
- More choices for fast HPLC with 2.0, 2.7, and 5.0 µm Fused-Core® particles
- Suitable for all UHPLC, HPLC and LC/MS instruments
- Phases available include: C8, C18, AQ-C18 (NEW!), C30, Peptide ES-C18, RP-Amide, Phenyl-Hexyl, Biphenyl, F5 (PFP), ES Cyano, OH-5 and HILIC

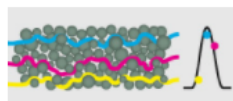
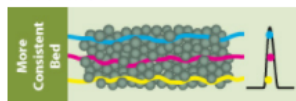
Fused-Core Particles



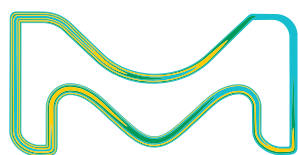
Traditional Porous Particles



The innovative manufacturing process for Fused-Core particles produces a very narrow particle size distribution. A narrow particle size distribution allows for the use of large porosity frits that resist clogging, resulting in a more rugged column. Traditional porous particles are not manufactured in a way to yield extremely narrow particle size distributions.



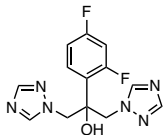
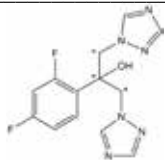
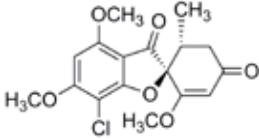
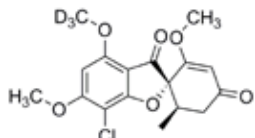
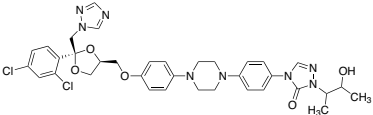
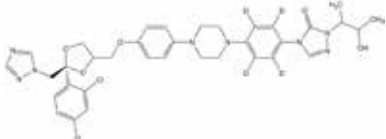
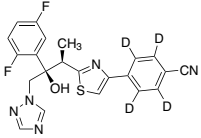
For more information, visit:  
[SigmaAldrich.com/express](http://SigmaAldrich.com/express)

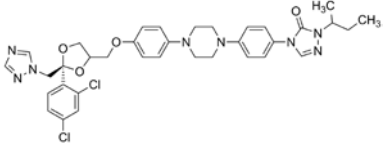
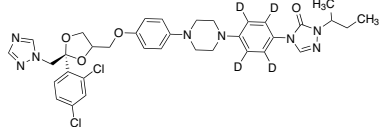
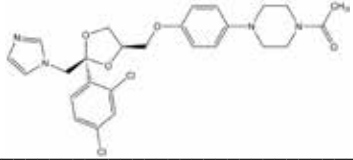
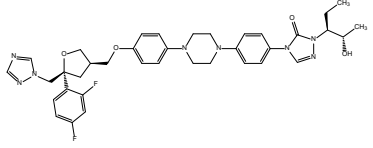
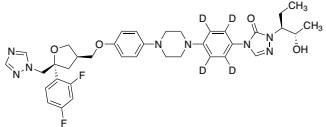
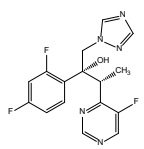
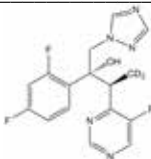


**Supelco®**  
Analytical Products

## Antifungals

Antifungals are a class of drugs used for the treatment of invasive and systemic fungal infections. Antifungal drugs are classified into several groups based on their molecular structure or mechanism of action. Major groups include the triazoles consisting of fluconazole, itraconazole, voriconazole or posaconazole; imidazoles such as ketoconazole; and antimicrobials. As a result of their high toxicity, narrow therapeutic range, and variable bioavailability, antifungals present significant clinical challenges to patients with severely compromised immune systems. Due to these issues, therapeutic drug monitoring (TDM) of antifungal levels is performed by clinical and diagnostic testing laboratories using HPLC or LC-MS/MS to ensure dosing remains within the drug's therapeutic range. Antifungals are also used as masking agents since they can potentially co-elute with illicit drugs in forensic or sports testing methods. The triazole antifungal fluconazole has been shown to produce false negative test results in GC/MS confirmation of cocaine use.

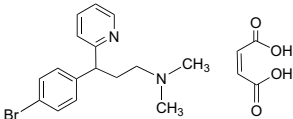
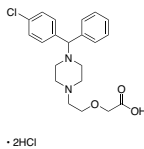
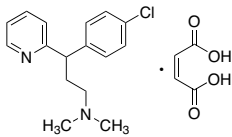
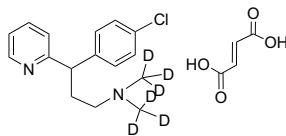
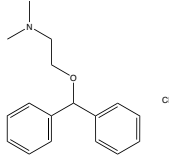
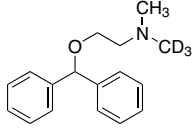
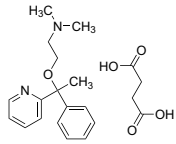
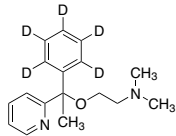
Product Name	ID	Cat. No.	Size	Structure
Fluconazole	86386-73-4 C <sub>13</sub> H <sub>12</sub> F <sub>2</sub> N <sub>6</sub> O M.W. 306.27	F-031-1ML	2.0 mg/mL 1 mL Methanol	
Fluconazole- <sup>13</sup> C <sub>3</sub>	C <sub>10</sub> <sup>13</sup> C <sub>3</sub> H <sub>12</sub> F <sub>2</sub> N <sub>6</sub> O M.W. 309.25	F-035-1ML	1.0 mg/mL 1 mL Methanol	
Griseofulvin	126-07-8 C <sub>17</sub> H <sub>17</sub> Cl O <sub>5</sub> M.W. 352.77	G-023-1ML	2.0 mg/mL 1 mL Acetonitrile	
Griseofulvin-D <sub>3</sub>	C <sub>17</sub> H <sub>14</sub> D <sub>3</sub> O <sub>5</sub> Cl M.W. 355.78	G-024-1ML	1.0 mg/mL 1 mL Acetonitrile	
Hydroxyitraconazole	112559-91-8 C <sub>35</sub> H <sub>38</sub> Cl <sub>2</sub> N <sub>8</sub> O <sub>5</sub> M.W. 721.64	H-110-1ML	100 µg/mL 1 mL Methanol	
Hydroxyitraconazole-D <sub>4</sub>	C <sub>35</sub> H <sub>34</sub> D <sub>4</sub> Cl <sub>2</sub> N <sub>8</sub> O <sub>5</sub> M.W. 725.66	H-111-1ML	100 µg/mL 1 mL Methanol	
Isavuconazole-D <sub>4</sub>	C <sub>22</sub> H <sub>13</sub> D <sub>4</sub> F <sub>2</sub> N <sub>2</sub> OS M.W. 441.49	I-040-1ML	1.0 mg/mL 1 mL Acetonitrile	

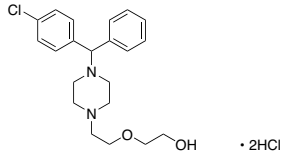
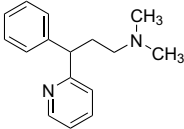
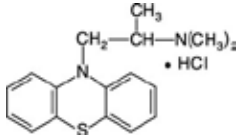
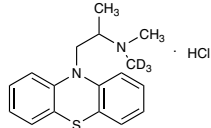
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Itraconazole	84625-61-6 C <sub>35</sub> H <sub>38</sub> Cl <sub>2</sub> N <sub>8</sub> O <sub>4</sub> M.W. 705.63	<b>I-015-1ML</b>	2.0 mg/mL 1 mL Methanol with 1% 1M HCl	
Itraconazole-D <sub>4</sub>	C <sub>35</sub> H <sub>34</sub> D <sub>4</sub> Cl <sub>2</sub> N <sub>8</sub> O <sub>4</sub> M.W. 709.66	<b>I-021-1ML</b>	1.0 mg/mL 1 mL Methanol with 1% 1M HCl	
Ketoconazole	65277-42-1 C <sub>26</sub> H <sub>28</sub> Cl <sub>2</sub> N <sub>4</sub> O <sub>4</sub> M.W. 531.43	<b>K-004-1ML</b>	2.0 mg/mL 1 mL Methanol	
Posaconazole	171228-49-2 C <sub>37</sub> H <sub>42</sub> F <sub>2</sub> N <sub>8</sub> O <sub>4</sub> M.W. 700.78	<b>P-103-1ML</b>	2.0 mg/mL 1 mL Methanol	
Posaconazole-D <sub>4</sub>	1133712-26-1 C <sub>37</sub> H <sub>38</sub> D <sub>4</sub> F <sub>2</sub> N <sub>8</sub> O <sub>4</sub> M.W. 704.80	<b>P-108-1ML</b>	1.0 mg/mL 1 mL Methanol	
Voriconazole	137234-62-9 C <sub>16</sub> H <sub>14</sub> F <sub>3</sub> N <sub>5</sub> O M.W. 349.31	<b>V-032-1ML</b>	2.0 mg/mL 1 mL Methanol	
(±)-Voriconazole-D <sub>3</sub>	C <sub>16</sub> H <sub>11</sub> D <sub>3</sub> F <sub>3</sub> N <sub>5</sub> O M.W. 352.33	<b>V-036-1ML</b>	1.0 mg/mL 1 mL Methanol	



# Antihistamines

Antihistamines are popular medications used for symptomatic relief of cold and allergy symptoms and as sleeping aids. These drugs can produce intense feelings of sedation, which reportedly can be enhanced by alcohol. Although relatively safe, antihistamine use is implicated in motor vehicle, civil aviation, and boating accidents with deaths resulting from accidental or intentional overdose. Antihistamines function by inhibiting the action of histamine, a compound that regulates immediate hypersensitivity and allergic response. Currently available antihistamines are classified as either first generation H<sub>1</sub> receptor agonists or as second generation H<sub>2</sub> receptor agonists. These drugs, especially diphenhydramine, chlorpheniramine, and promethazine, are routinely analyzed in forensic laboratories to determine cause of death in cases of suspected suicide or drug-facilitated crime.

Product Name	ID	Cat. No.	Size	Structure
Brompheniramine maleate	980-71-2 C <sub>16</sub> H <sub>19</sub> BrN <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 435.31	<b>B-043-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Cetirizine diHCl	83881-52-1 C <sub>21</sub> H <sub>25</sub> ClN <sub>2</sub> O <sub>3</sub> ·diHCl M.W. 461.81	<b>C-158-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL 90:10 Acetonitrile:Water	
Chlorpheniramine maleate	113-92-8 C <sub>16</sub> H <sub>19</sub> ClN <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 390.86	<b>C-036-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Chlorpheniramine-D <sub>6</sub> maleate	1219806-45-7 C <sub>16</sub> H <sub>13</sub> D <sub>6</sub> ClN <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 396.90	<b>C-086-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Diphenhydramine HCl	147-24-0 C <sub>17</sub> H <sub>21</sub> NO·HCl M.W. 291.82	<b>D-015-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Diphenhydramine-D <sub>3</sub>	170082-18-5 C <sub>17</sub> H <sub>18</sub> D <sub>3</sub> NO M.W. 258.37	<b>D-017-1ML</b>	100 µg/mL 1 mL Methanol	
Doxylamine succinate	562-10-7 C <sub>17</sub> H <sub>22</sub> N <sub>2</sub> O·C <sub>4</sub> H <sub>6</sub> O <sub>4</sub> M.W. 388.46	<b>D-045-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Doxylamine-D <sub>5</sub>	1173020-59-1 C <sub>17</sub> D <sub>5</sub> H <sub>17</sub> N <sub>2</sub> O M.W. 275.40	<b>D-051-1ML</b>	100 µg/mL 1 mL Acetonitrile	

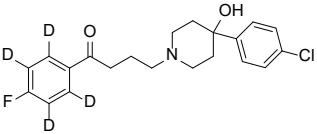
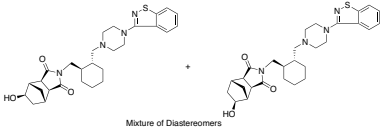
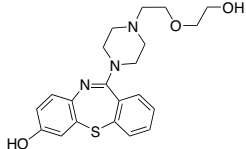
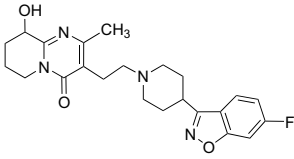
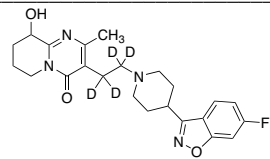
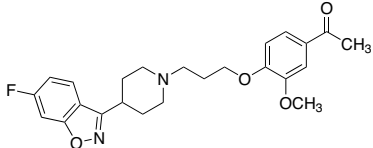
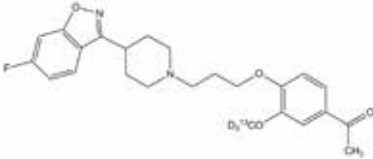
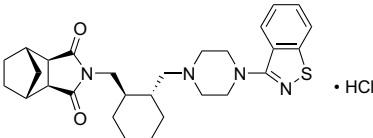
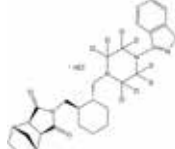
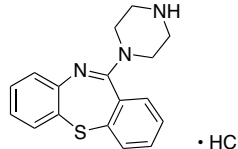
Product Name	ID	Cat. No.	Size	Structure
Hydroxyzine diHCl	2192-20-3 C <sub>21</sub> H <sub>27</sub> ClN <sub>2</sub> O <sub>2</sub> ·diHCl M.W. 447.83	<b>H-124-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Pheniramine	86-21-5 C <sub>16</sub> H <sub>20</sub> N <sub>2</sub> M.W. 240.34	<b>P-045-1ML</b>	1.0 mg/mL 1 mL Methanol	
Promethazine HCl	58-33-3 C <sub>17</sub> H <sub>20</sub> N <sub>2</sub> S·HCl M.W. 320.88	<b>P-111-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL 1% 1M HCl in Methanol	
Promethazine-D <sub>3</sub> HCl	1435933-86-0 C <sub>17</sub> H <sub>17</sub> D <sub>3</sub> N <sub>2</sub> S·HCl M.W. 323.90	<b>P-112-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL 1% 1M HCl in Methanol	

# Antipsychotics

Antipsychotics are a class of drugs used to treat a variety of mental health conditions, including schizophrenia spectrum disorders, bipolar disorder, attention-deficit/hyperactivity disorder (ADHD), opiate and alcohol addiction, sleep disorders, and depression. Antipsychotics have serious adverse effects associated with their use including rapid weight gain, diabetes, cardiovascular disease, and movement impairment. Antipsychotics are separated into two classes – first generation drugs known as typicals and newer second generation drugs called atypicals. Both atypical and typical antipsychotics are routinely analyzed in clinical and forensic applications. For clinical and diagnostic testing, therapeutic drug monitoring (TDM) of antipsychotics may be indicated to assess medication adherence and to ensure dosing remains within the therapeutic range. While antipsychotics have historically been analyzed by GC/MS, many of the newer atypicals such as risperidone are not suitable for GC analysis due to thermal instability. HPLC and LC/MS have supplanted GC/MS for the analysis of antipsychotics in biological matrices, because liquid chromatographic systems do not require volatilization or derivatization of the analyte.

Product Name	ID	Cat. No.	Size	Structure
Aripiprazole	129722-12-9 C <sub>23</sub> H <sub>27</sub> Cl <sub>2</sub> N <sub>3</sub> O <sub>2</sub> M.W. 448.39	A-119-1ML	1.0 mg/mL 1 mL 50:50 Methanol/ Water with 1% 1N HCl	
Aripiprazole-D <sub>8</sub>	1089115-04-7 C <sub>23</sub> H <sub>19</sub> D <sub>8</sub> Cl <sub>2</sub> N <sub>3</sub> O <sub>2</sub> M.W. 456.43	A-081-1ML	100 µg/mL 1 mL Acetonitrile	
Asenapine maleate	85650-56-2 C <sub>17</sub> H <sub>16</sub> ClNO· C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 401.84	A-101-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Asenapine-D <sub>3</sub> maleate	C <sub>17</sub> H <sub>13</sub> D <sub>3</sub> ClNO· C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 404.86	A-159-1ML	100 µg/mL (as free base) 1 mL Methanol	
Bromperidol	10457-90-6 C <sub>21</sub> H <sub>23</sub> BrFNO <sub>2</sub> M.W. 420.32	B-078-1ML	1.0 mg/mL 1 mL Methanol	
Chlorpromazine HCl	69-09-0 C <sub>17</sub> H <sub>19</sub> ClN <sub>2</sub> S·HCl M.W. 355.33	C-904-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Chlorpromazine-D <sub>3</sub> maleate	C <sub>17</sub> H <sub>16</sub> ClD <sub>3</sub> N <sub>2</sub> S· C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 437.95	C-107-1ML	100 µg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Clozapine	5786-21-0 C <sub>18</sub> H <sub>19</sub> ClN <sub>4</sub> M.W. 326.82	C-059-1ML	1.0 mg/mL 1 mL Methanol	
Clozapine-D <sub>4</sub>	204395-52-8 C <sub>18</sub> H <sub>15</sub> D <sub>4</sub> ClN <sub>4</sub> M.W. 330.85	C-091-1ML	100 µg/mL 1 mL Methanol	
Clozapine N-oxide	34233-69-7 C <sub>18</sub> H <sub>19</sub> ClN <sub>4</sub> O M.W. 342.82	C-125-1ML	100 µg/mL 1 mL Methanol	
Dehydro Aripiprazole	129722-25-4 C <sub>23</sub> H <sub>25</sub> Cl <sub>2</sub> N <sub>3</sub> O <sub>2</sub> M.W. 446.37	D-053-1ML	1.0 mg/mL 1 mL Methanol with 5% 1N HCl	
N-Desmethylclozapine	6104-71-8 C <sub>17</sub> H <sub>17</sub> ClN <sub>4</sub> M.W. 312.80	D-048-1ML	1.0 mg/mL 1 mL Methanol	
N-Desmethylclozapine-D <sub>8</sub>	1189888-77-4 C <sub>17</sub> H <sub>9</sub> D <sub>8</sub> ClN <sub>4</sub> M.W. 320.85	D-169-1ML	100 µg/mL 1 mL Methanol	
N-Desmethylolanzapine dihydrochloride	161696-76-0 C <sub>16</sub> H <sub>18</sub> N <sub>4</sub> S·diHCl M.W. 371.33	D-069-1ML	1.0 mg/mL (as free base) 1 mL Acetonitrile:Water (1:1)	
N-Desmethylolanzapine-D <sub>8</sub> dihydrochlorid	161696-76-0 C <sub>16</sub> H <sub>10</sub> D <sub>8</sub> N <sub>4</sub> S·diHCl M.W. 379.38	D-070-1ML	100 µg/mL (as free base) 1 mL Acetonitrile:Water (1:1)	
Fluphenazine dihydrochloride	146-56-5 C <sub>22</sub> H <sub>26</sub> N <sub>3</sub> OSF <sub>3</sub> ·diHCl M.W. 510.44	F-903-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Haloperidol	52-86-8 C <sub>21</sub> H <sub>23</sub> ClFNO <sub>2</sub> M.W. 375.86	H-030-1ML	1.0 mg/mL 1 mL Methanol	

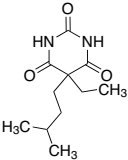
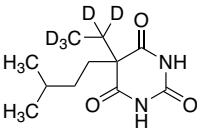
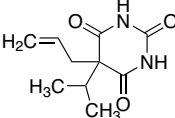
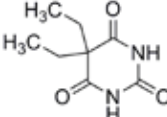
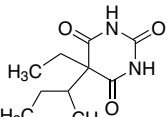
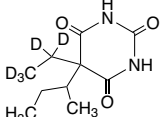
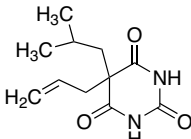
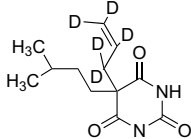
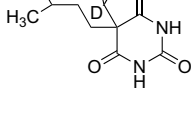
Product Name	ID	Cat. No.	Size	Structure
Haloperidol-D <sub>4</sub>	136765-35-0 C <sub>21</sub> H <sub>19</sub> D <sub>4</sub> ClFNO <sub>2</sub> M.W. 379.89	H-002-1ML	100 µg/mL 1 mL Methanol	
5β/6β-Hydroxy Lurasidone (Mixture of Diastereomers)	C <sub>28</sub> H <sub>36</sub> N <sub>4</sub> O <sub>3</sub> S M.W. 508.68	H-125-1ML	1.0 mg/mL 1 mL Methanol	
7-Hydroxyquetiapine	139079-39-3 C <sub>21</sub> H <sub>25</sub> N <sub>3</sub> O <sub>3</sub> S M.W. 399.51	H-081-1ML	1.0 mg/mL 1 mL Methanol	
9-Hydroxyrisperidone	144598-75-4 C <sub>23</sub> H <sub>27</sub> FN <sub>4</sub> O <sub>3</sub> M.W. 426.48	H-076-1ML	1.0 mg/mL 1 mL Methanol	
9-Hydroxyrisperidone-D <sub>4</sub>	1020719-55-4 C <sub>23</sub> H <sub>23</sub> D <sub>4</sub> FN <sub>4</sub> O <sub>3</sub> M.W. 430.51	H-095-1ML	100 µg/mL 1 mL Methanol	
Iloperidone	133454-47-4 C <sub>24</sub> H <sub>27</sub> FN <sub>2</sub> O <sub>4</sub> M.W. 426.48	I-011-1ML	1.0 mg/mL 1 mL Methanol	
Iloperidone- <sup>13</sup> C, <sub>3</sub> D <sub>3</sub>	C <sub>23</sub> <sup>13</sup> CH <sub>24</sub> D <sub>3</sub> FN <sub>2</sub> O <sub>4</sub> M.W. 430.49	I-013-1ML	100 µg/mL 1 mL Methanol	
Lurasidone HCl	367514-88-3 C <sub>28</sub> H <sub>36</sub> N <sub>4</sub> O <sub>2</sub> S·HCl M.W. 529.14	L-030-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Lurasidone-D <sub>8</sub> HCl	C <sub>28</sub> H <sub>28</sub> D <sub>8</sub> N <sub>4</sub> O <sub>2</sub> S·HCl M.W. 537.19	L-035-1ML	100 µg/mL (as free base) 1 mL Methanol	
Norquetiapine HCl	753475-15-9 C <sub>17</sub> H <sub>17</sub> N <sub>3</sub> S·HCl M.W. 331.86	N-070-1ML	1.0 mg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Norquetiapine-D <sub>8</sub> HCl	C <sub>17</sub> H <sub>9</sub> D <sub>8</sub> N <sub>3</sub> S·HCl M.W. 339.91	<b>N-121-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Olanzapine	132539-06-1 C <sub>17</sub> H <sub>20</sub> N <sub>4</sub> S M.W. 312.43	<b>O-024-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Olanzapine-D <sub>8</sub>	C <sub>17</sub> H <sub>12</sub> D <sub>8</sub> N <sub>4</sub> S M.W. 320.48	<b>O-035-1ML</b>	100 µg/mL 1 mL Acetonitrile	
OPC-3373 (Aripiprazole Metabolite)	58899-27-7 C <sub>13</sub> H <sub>15</sub> NO <sub>4</sub> M.W. 249.26	<b>O-049-1ML</b>	1.0 mg/mL 1mL Acetonitrile:DMSO (90:10)	
OPC-3373-D <sub>4</sub> (Aripiprazole Metabolite-D <sub>4</sub> )	C <sub>13</sub> H <sub>11</sub> D <sub>4</sub> NO <sub>4</sub> M.W. 253.29	<b>O-046-1ML</b>	100 µg/mL 1 mL Acetonitrile/ DMSO (90:10)	
Quetiapine fumarate	111974-72-2 C <sub>21</sub> H <sub>25</sub> N <sub>3</sub> O <sub>2</sub> S·½(C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> ) M.W. 441.54	<b>Q-001-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Quetiapine-D <sub>8</sub> hemifumarate	1185247-12-4 C <sub>21</sub> H <sub>17</sub> D <sub>8</sub> N <sub>3</sub> O <sub>2</sub> S·½(C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> ) M.W. 449.59	<b>Q-002-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Quetiapine carboxylic acid	1141717-53-4 C <sub>21</sub> H <sub>23</sub> N <sub>3</sub> O <sub>3</sub> S M.W. 397.49	<b>Q-004-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Quetiapine carboxylic acid-D <sub>8</sub>	C <sub>21</sub> H <sub>15</sub> D <sub>8</sub> N <sub>3</sub> O <sub>3</sub> S M.W. 405.54	<b>Q-005-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Risperidone	106266-06-2 C <sub>23</sub> H <sub>27</sub> FN <sub>4</sub> O <sub>2</sub> M.W. 410.48	<b>R-006-1ML</b>	1.0 mg/mL 1 mL Methanol	
Risperidone-D <sub>4</sub>	1020719-76-9 C <sub>23</sub> H <sub>23</sub> D <sub>4</sub> FN <sub>4</sub> O <sub>2</sub> M.W. 414.51	<b>R-013-1ML</b>	100 µg/mL 1 mL Methanol	

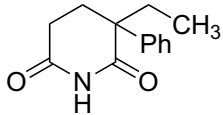
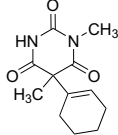
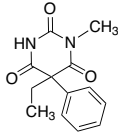
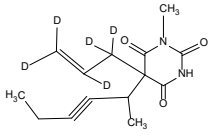
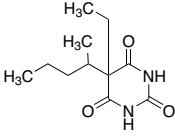
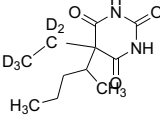
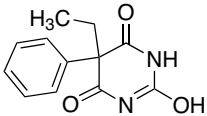
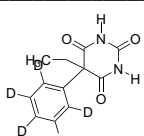
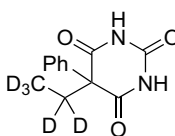
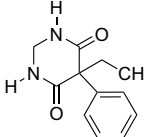
Product Name	ID	Cat. No.	Size	Structure
Thioridazine	50-52-2 C <sub>21</sub> H <sub>26</sub> N <sub>2</sub> S <sub>2</sub> M.W. 370.57	<b>T-905-1ML</b>	1.0 mg/mL 1 mL Methanol	
Thioridazine-D <sub>3</sub> HCl	1189928-36-6 C <sub>21</sub> H <sub>23</sub> D <sub>3</sub> N <sub>2</sub> S <sub>2</sub> ·HCl M.W. 410.05	<b>T-135-1ML</b>	100 µg/mL 1 mL Methanol	
Trifluoperazine diHCl	440-17-5 C <sub>21</sub> H <sub>24</sub> F <sub>3</sub> N <sub>3</sub> S·2HCl M.W. 480.42	<b>T-117-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Trifluoperazine N-β-D-glucuronide	165602-90-4 C <sub>27</sub> H <sub>32</sub> F <sub>3</sub> N <sub>3</sub> O <sub>6</sub> S M.W. 583.62	<b>T-118-1ML</b>	100 µg/mL 1 mL Methanol/Water (1:1)	
Triflupromazine HCl	1098-60-8 C <sub>18</sub> H <sub>19</sub> F <sub>3</sub> N <sub>2</sub> S·HCl M.W. 388.88	<b>T-128-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Ziprasidone HCl	138982-67-9 C <sub>21</sub> H <sub>21</sub> ClN <sub>4</sub> OS·HCl M.W. 449.40	<b>Z-018-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	

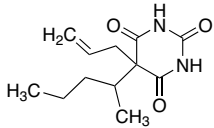
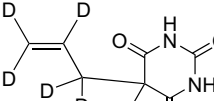

## Barbiturates

Barbiturates are chemical derivatives of barbituric acid that are therapeutically used as sedatives, hypnotics, anticonvulsants, anesthetics, and tranquilizers. Barbiturates have physical and psychological addiction potential and at high doses can cause a slowdown of the respiratory system, potentially leading to coma and death. Due to these effects, barbiturates have been implicated in many instances of suicide. Barbiturates have largely been replaced by benzodiazepines and nonbenzodiazepines (Z-drugs) in routine medical practice, particularly in the treatment of anxiety and insomnia. This is due to the significantly lower risk of addiction and overdose, and the lack of an antidote for barbiturate overdose.

Product Name	ID	Cat. No.	Size	Structure
Amobarbital	57-43-2 C <sub>11</sub> H <sub>18</sub> N <sub>2</sub> O <sub>3</sub> M.W. 226.27	A-020-1ML	1.0 mg/mL 1 mL Methanol	
Amobarbital-D <sub>5</sub>	1190003-63-4 C <sub>11</sub> H <sub>13</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 231.30	A-102-1ML	100 µg/mL 1 mL Methanol	
Aprobarbital	77-02-1 C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> O <sub>3</sub> M.W. 210.23	A-150-1ML	1.0 mg/mL 1 mL Methanol	
Barbital	57-44-3 C <sub>8</sub> H <sub>12</sub> N <sub>2</sub> O <sub>3</sub> M.W. 184.19	B-070-1ML	1.0 mg/mL 1 mL Methanol	
Butabarbital	125-40-6 C <sub>10</sub> H <sub>16</sub> N <sub>2</sub> O <sub>3</sub> M.W. 212.25	B-024-1ML	1.0 mg/mL 1 mL Methanol	
Butabarbital-D <sub>5</sub>	C <sub>10</sub> H <sub>11</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 217.28	B-065-1ML	100 µg/mL 1 mL Methanol	
Butalbital	77-26-9 C <sub>11</sub> H <sub>16</sub> N <sub>2</sub> O <sub>3</sub> M.W. 224.26	B-006-1ML	1.0 mg/mL 1 mL Methanol	
Butalbital-D <sub>5</sub>	145243-96-5 C <sub>11</sub> H <sub>11</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 229.29	B-005-1ML	100 µg/mL 1 mL Methanol	
	145243-96-5 C <sub>11</sub> H <sub>11</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 229.29	B-030-1ML	1.0 mg/mL 1 mL Methanol	



Product Name	ID	Cat. No.	Size	Structure
Glutethimide	77-21-4 C <sub>13</sub> H <sub>15</sub> NO <sub>2</sub> M.W. 217.26	G-005-1ML	1.0 mg/mL 1 mL Methanol	
Hexobarbital	56-29-1 C <sub>12</sub> H <sub>16</sub> N <sub>2</sub> O <sub>3</sub> M.W. 236.27	H-013-1ML	1.0 mg/mL 1 mL Methanol	
Mephobarbital	115-38-8 C <sub>13</sub> H <sub>14</sub> N <sub>2</sub> O <sub>3</sub> M.W. 246.26	M-193-1ML	1.0 mg/mL 1 mL Methanol	
Methohexital-D <sub>5</sub>	160227-45-2 C <sub>14</sub> H <sub>13</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 267.34	M-079-1ML	100 µg/mL 1 mL Methanol	
Pentobarbital	76-74-4 C <sub>11</sub> H <sub>18</sub> N <sub>2</sub> O <sub>3</sub> M.W. 226.27	P-010-1ML	1.0 mg/mL 1 mL Methanol	
Pentobarbital-D <sub>5</sub>	52944-66-8 C <sub>11</sub> H <sub>13</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 231.30	P-009-1ML	100 µg/mL 1 mL Methanol	
	52944-66-8 C <sub>11</sub> H <sub>13</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 231.30	P-013-1ML	1.0 mg/mL 1 mL Methanol	
Phenobarbital	50-06-6 C <sub>12</sub> H <sub>12</sub> N <sub>2</sub> O <sub>3</sub> M.W. 232.24	P-008-1ML	1.0 mg/mL 1 mL Methanol	
Phenobarbital-D <sub>5</sub> (deuterium label on ring)	72793-46-5 C <sub>12</sub> H <sub>7</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 237.27	P-018-1ML	100 µg/mL 1 mL Methanol	
	72793-46-5 C <sub>12</sub> H <sub>7</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 237.27	P-019-1ML	1.0 mg/mL 1 mL Methanol	
Phenobarbital-D <sub>5</sub> (deuterium label on side chain)	73738-05-3 C <sub>12</sub> H <sub>7</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 237.27	P-004-1ML	100 µg/mL 1 mL Methanol	
	73738-05-3 C <sub>12</sub> H <sub>7</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 237.27	P-017-1ML	1.0 mg/mL 1 mL Methanol	
Primidone	125-33-7 C <sub>12</sub> H <sub>14</sub> N <sub>2</sub> O <sub>2</sub> M.W. 218.25	P-075-1ML	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Secobarbital	76-73-3 C <sub>12</sub> H <sub>18</sub> N <sub>2</sub> O <sub>3</sub> M.W. 238.28	S-002-1ML	1.0 mg/mL 1 mL Methanol	
Secobarbital-D <sub>5</sub>	145243-97-6 C <sub>12</sub> H <sub>13</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 243.31	S-001-1ML	100 µg/mL 1 mL Methanol	
	145243-97-6 C <sub>12</sub> H <sub>13</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 243.31	S-048-1ML	1.0 mg/mL 1 mL Methanol	

# Automate Your SPE

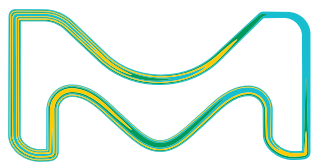
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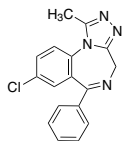
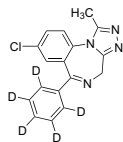
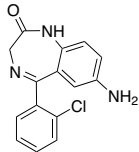
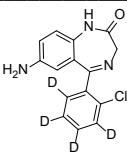
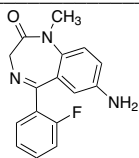
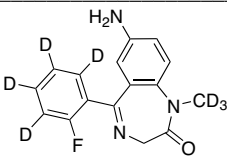


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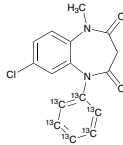
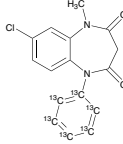
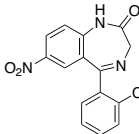
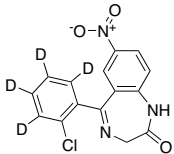
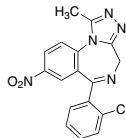
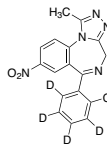
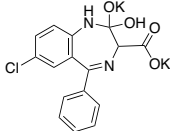
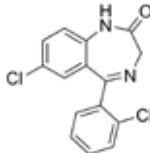
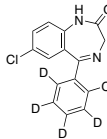
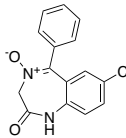
**Supelco®**  
Analytical Products

## Benzodiazepines

Benzodiazepines are a broad class of psychoactive drugs prescribed worldwide for treating various conditions including anxiety, insomnia, and muscle spasms. These drugs are classified as either short or long-acting. Short-acting benzodiazepines like triazolam are typically prescribed to treat insomnia. Long-acting benzodiazepines, such as diazepam, alprazolam, lorazepam, and prazepam, may be used to treat insomnia as well as other conditions including anxiety, seizures, or muscle spasms. Around the world, benzodiazepines are widely misused. Compounding the problem of benzodiazepine misuse is the trend among polydrug users to combine benzodiazepines with other drugs into potentially lethal drug mixes. Consumption of these drug mixes is associated with higher risk of overdose and mortality. Novel psychoactive substance (NPS) benzodiazepines have emerged in illicit online drug shops in the past couple of years. NPS benzodiazepines such as phenazepam, etizolam, nimetazepam and demoxepam have little to no known medical use, are more potent than pharmaceutical benzodiazepines, and are uncontrolled in many countries.

Product Name	ID	Cat. No.	Size	Structure
Alprazolam	28981-97-7 C <sub>17</sub> H <sub>13</sub> ClN <sub>4</sub> M.W. 308.76	<b>A-903-1ML</b>	1.0 mg/mL 1 mL Methanol	
Alprazolam-D <sub>5</sub>	125229-61-0 C <sub>17</sub> H <sub>8</sub> D <sub>5</sub> N <sub>4</sub> Cl M.W. 313.80	<b>A-902-1ML</b>	100 µg/mL 1 mL Methanol	
	125229-61-0 C <sub>17</sub> H <sub>8</sub> ClD <sub>5</sub> N <sub>4</sub> M.W. 313.80	<b>A-910-1ML</b>	1.0 mg/mL 1 mL Methanol	
7-Aminoclonazepam	4959-17-5 C <sub>15</sub> H <sub>12</sub> ClN <sub>3</sub> O M.W. 285.73	<b>A-915-1ML</b>	100 µg/mL 1 mL Acetonitrile	
	4959-17-5 C <sub>15</sub> H <sub>12</sub> ClN <sub>3</sub> O M.W. 285.73	<b>A-916-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
7-Aminoclonazepam-D <sub>4</sub>	1215070-96-4 C <sub>15</sub> H <sub>8</sub> ClD <sub>4</sub> N <sub>3</sub> O M.W. 289.75	<b>A-917-1ML</b>	100 µg/mL 1 mL Acetonitrile	
	1215070-96-4 C <sub>15</sub> H <sub>8</sub> ClD <sub>4</sub> N <sub>3</sub> O M.W. 289.75	<b>A-924-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
7-Aminoflunitrazepam	34084-50-9 C <sub>16</sub> H <sub>14</sub> FN <sub>3</sub> O M.W. 283.30	<b>A-912-1ML</b>	100 µg/mL 1 mL Acetonitrile	
	34084-50-9 C <sub>16</sub> H <sub>14</sub> FN <sub>3</sub> O M.W. 283.30	<b>A-911-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
7-Aminoflunitrazepam-D <sub>7</sub>	879894-27-6 C <sub>16</sub> H <sub>7</sub> D <sub>7</sub> FN <sub>3</sub> O M.W. 290.34	<b>A-921-1ML</b>	100 µg/mL 1 mL Acetonitrile	
	879894-27-6 C <sub>16</sub> H <sub>7</sub> D <sub>7</sub> FN <sub>3</sub> O M.W. 290.34	<b>A-925-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	

Product Name	ID	Cat. No.	Size	Structure
7-Aminoflunitrazepam- <sup>13</sup> C <sub>6</sub>	C <sub>10</sub> <sup>13</sup> C <sub>6</sub> H <sub>14</sub> FN <sub>3</sub> O M.W. 289.26	A-111-1ML	100 µg/mL 1 mL Acetonitrile	
7-Aminonimetazepam	4959-16-4 C <sub>16</sub> H <sub>15</sub> N <sub>3</sub> O M.W. 265.31	A-098-1ML	100 µg/mL 1 mL Acetonitrile	
7-Aminonitrazepam	4928-02-3 C <sub>15</sub> H <sub>13</sub> N <sub>3</sub> O M.W. 251.28	A-914-1ML	100 µg/mL 1 mL Acetonitrile	
	4928-02-3 C <sub>15</sub> H <sub>13</sub> N <sub>3</sub> O M.W. 251.28	A-913-1ML	1.0 mg/mL 1 mL Acetonitrile	
7-Aminonitrazepam-D <sub>5</sub>	C <sub>15</sub> H <sub>8</sub> D <sub>5</sub> N <sub>3</sub> O M.W. 256.31	A-126-1ML	100 µg/mL 1 mL Acetonitrile	
Bromazepam	1812-30-2 C <sub>14</sub> H <sub>10</sub> BrN <sub>3</sub> O M.W. 316.15	B-903-1ML	1.0 mg/mL 1 mL Methanol	
Bromazepam-D <sub>4</sub>	1185022-85-8 C <sub>14</sub> H <sub>6</sub> D <sub>4</sub> BrN <sub>3</sub> O M.W. 320.18	B-064-1ML	100 µg/mL 1 mL Methanol	
Camazepam	36104-80-0 C <sub>19</sub> H <sub>18</sub> ClN <sub>3</sub> O <sub>3</sub> M.W. 371.82	C-176-1ML	1.0 mg/mL 1 mL Acetonitrile	
Chlordiazepoxide	58-25-3 C <sub>16</sub> H <sub>14</sub> ClN <sub>3</sub> O M.W. 299.75	C-022-1ML	1.0 mg/mL 1 mL Methanol	
Chlordiazepoxide-D <sub>5</sub>	65891-81-8 C <sub>16</sub> H <sub>9</sub> D <sub>5</sub> ClN <sub>3</sub> O M.W. 304.79	C-912-1ML	100 µg/mL 1 mL Methanol	
Clobazam	22316-47-8 C <sub>16</sub> H <sub>13</sub> N <sub>2</sub> O <sub>2</sub> Cl M.W. 300.74	C-909-1ML	1.0 mg/mL 1 mL Methanol	

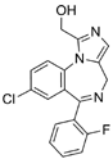
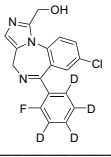
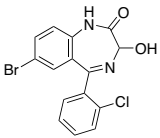
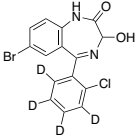
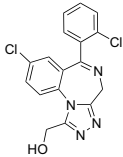
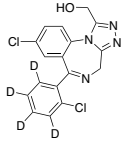
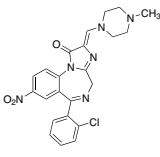
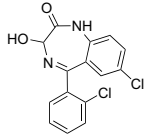
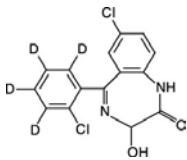
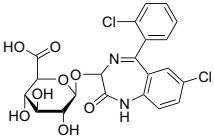
Product Name	ID	Cat. No.	Size	Structure
Clobazam- <sup>13</sup> C <sub>6</sub>	C <sub>10</sub> <sup>13</sup> C <sub>6</sub> H <sub>13</sub> ClN <sub>2</sub> O <sub>2</sub> M.W. 306.70	<b>C-149-1ML</b>	100 µg/mL 1 mL Methanol	
Clobazam-8-chloro isomer- <sup>13</sup> C <sub>6</sub>	C <sub>10</sub> <sup>13</sup> C <sub>6</sub> H <sub>13</sub> ClN <sub>2</sub> O <sub>2</sub> M.W. 306.73	<b>C-129-1ML</b>	100 µg/mL 1 mL Methanol	
Clonazepam	1622-61-3 C <sub>15</sub> H <sub>10</sub> ClN <sub>3</sub> O <sub>3</sub> M.W. 315.71	<b>C-907-1ML</b>	1.0 mg/mL 1 mL Methanol	
Clonazepam-D <sub>4</sub>	170082-15-2 C <sub>15</sub> H <sub>6</sub> ClD <sub>4</sub> N <sub>3</sub> O <sub>3</sub> M.W. 319.74	<b>C-905-1ML</b>	100 µg/mL 1 mL Methanol	
	170082-15-2 C <sub>15</sub> H <sub>6</sub> ClD <sub>4</sub> N <sub>3</sub> O <sub>3</sub> M.W. 319.74	<b>C-906-1ML</b>	1.0 mg/mL 1.0 mL Methanol	
Clonazolam	33887-02-4 C <sub>17</sub> H <sub>12</sub> ClN <sub>5</sub> O <sub>2</sub> M.W. 353.76	<b>C-167-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Clonazolam-D <sub>4</sub>	C <sub>17</sub> H <sub>8</sub> D <sub>4</sub> ClN <sub>5</sub> O <sub>2</sub> M.W. 357.79	<b>C-168-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Clorazepate dipotassium	57109-90-7 C <sub>16</sub> H <sub>11</sub> ClK <sub>2</sub> N <sub>2</sub> O <sub>4</sub> M.W. 408.92	<b>C-156-1ML</b>	1.0 mg/mL (as clorazepate) 1 mL Methanol	
Delorazepam	2894-67-9 C <sub>15</sub> H <sub>10</sub> Cl <sub>2</sub> N <sub>2</sub> O M.W. 305.16	<b>D-142-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Delorazepam-D <sub>4</sub>	84344-12-7 C <sub>15</sub> H <sub>6</sub> D <sub>4</sub> Cl <sub>2</sub> N <sub>2</sub> O M.W. 309.18	<b>D-163-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Demoxepam	963-39-3 C <sub>15</sub> H <sub>11</sub> N <sub>2</sub> O <sub>2</sub> Cl M.W. 286.71	<b>D-079-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	

Product Name	ID	Cat. No.	Size	Structure
Demoxepam-D <sub>5</sub>	65854-75-3 C <sub>15</sub> H <sub>6</sub> D <sub>5</sub> N <sub>2</sub> O <sub>2</sub> Cl M.W. 291.74	<b>D-080-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Desalkylflurazepam	2886-65-9 C <sub>15</sub> H <sub>10</sub> N <sub>2</sub> OCIF M.W. 288.70	<b>D-915-1ML</b>	1.0 mg/mL 1 mL Methanol	
Desalkylflurazepam-D <sub>4</sub>	1286430-01-0 C <sub>15</sub> H <sub>6</sub> ClD <sub>4</sub> FN <sub>2</sub> O M.W. 292.73	<b>D-924-1ML</b>	100 µg/mL 1 mL Methanol	
Deschloroetizolam	40054-73-7 C <sub>17</sub> H <sub>16</sub> N <sub>4</sub> S M.W. 308.40	<b>D-156-1ML</b>	1.0 mg/mL 1 mL Methanol	
N-Desmethylclonazepam	22316-55-8 C <sub>15</sub> H <sub>11</sub> ClN <sub>2</sub> O <sub>2</sub> M.W. 286.71	<b>D-049-1ML</b>	100 µg/mL 1 mL Acetonitrile	
N-Desmethylclonazepam	22316-55-8 C <sub>15</sub> H <sub>11</sub> ClN <sub>2</sub> O <sub>2</sub> M.W. 286.71	<b>D-145-1ML</b>	1.0 mg/mL 1 mL 90:10 Acetonitrile:DMSO	
N-Desmethylclonazepam- <sup>13</sup> C <sub>6</sub>	C <sub>9</sub> <sup>13</sup> C <sub>6</sub> H <sub>11</sub> ClN <sub>2</sub> O <sub>2</sub> M.W. 292.67	<b>D-128-1ML</b>	100 µg/mL 1 mL Acetonitrile	
N-Desmethylclonazepam-8-chloro isomer- <sup>13</sup> C <sub>6</sub>	C <sub>9</sub> <sup>13</sup> C <sub>6</sub> H <sub>11</sub> ClN <sub>2</sub> O <sub>2</sub> M.W. 292.67	<b>D-094-1ML</b>	100 µg/mL 1 mL Acetonitrile	
N-Desmethylflunitrazepam	2558-30-7 C <sub>15</sub> H <sub>10</sub> FN <sub>3</sub> O <sub>3</sub> M.W. 299.26	<b>D-918-1ML</b>	1.0 mg/mL 1 mL Methanol	
N-Desmethylflunitrazepam-D <sub>4</sub>	1397234-19-3 C <sub>15</sub> H <sub>6</sub> D <sub>4</sub> N <sub>3</sub> O <sub>3</sub> F M.W. 303.28	<b>D-925-1ML</b>	100 µg/mL 1 mL Methanol	
Diazepam	439-14-5 C <sub>16</sub> H <sub>13</sub> ClN <sub>2</sub> O M.W. 284.74	<b>D-907-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Diazepam-D <sub>5</sub>	65854-76-4 C <sub>16</sub> H <sub>8</sub> ClD <sub>5</sub> N <sub>2</sub> O M.W. 289.74	<b>D-902-1ML</b>	100 µg/mL 1 mL Methanol	
	65854-76-4 C <sub>16</sub> H <sub>8</sub> ClD <sub>5</sub> N <sub>2</sub> O M.W. 289.74	<b>D-910-1ML</b>	1.0 mg/mL 1 mL Methanol	
Diclazepam	2894-68-0 C <sub>16</sub> H <sub>12</sub> Cl <sub>2</sub> N <sub>2</sub> O M.W. 319.19	<b>D-159-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Diclazepam-D <sub>4</sub>	84344-18-3 C <sub>16</sub> H <sub>8</sub> Cl <sub>2</sub> D <sub>4</sub> N <sub>2</sub> O M.W. 323.21	<b>D-160-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Estazolam	29975-16-4 C <sub>16</sub> H <sub>11</sub> ClN <sub>4</sub> M.W. 294.74	<b>E-901-1ML</b>	1.0 mg/mL 1 mL Methanol	
Estazolam-D <sub>5</sub>	170082-16-3 C <sub>16</sub> H <sub>6</sub> ClD <sub>5</sub> N <sub>4</sub> M.W. 299.77	<b>E-903-1ML</b>	100 µg/mL 1 mL Methanol	
Etizolam	40054-69-1 C <sub>17</sub> H <sub>15</sub> ClN <sub>4</sub> S M.W. 342.85	<b>E-081-1ML</b>	1.0 mg/mL 1 mL Methanol	
Etizolam-D <sub>3</sub>	C <sub>17</sub> H <sub>12</sub> D <sub>3</sub> ClN <sub>4</sub> S M.W. 345.86	<b>E-082-1ML</b>	100 µg/mL 1 mL Methanol	
Flubromazepam	2647-50-9 C <sub>15</sub> H <sub>10</sub> BrFN <sub>2</sub> O M.W. 333.16	<b>F-043-1ML</b>	1.0 mg/mL 1 mL Methanol	
Flubromazolam	612526-40-6 C <sub>17</sub> H <sub>12</sub> BrFN <sub>4</sub> M.W. 371.21	<b>F-047-1ML</b>	1.0 mg/mL 1 mL Methanol	
Flunitrazepam	1622-62-4 C <sub>16</sub> H <sub>12</sub> FN <sub>3</sub> O <sub>3</sub> M.W. 313.28	<b>F-907-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Flunitrazepam-D <sub>7</sub>	1286448-08-5 C <sub>16</sub> H <sub>5</sub> D <sub>7</sub> N <sub>3</sub> O <sub>3</sub> F M.W. 320.33	F-915-1ML	100 µg/mL 1 mL Methanol	
Flunitrazepam- <sup>13</sup> C <sub>6</sub>	C <sub>10</sub> <sup>13</sup> C <sub>6</sub> H <sub>12</sub> FN <sub>3</sub> O <sub>3</sub> M.W. 319.24	F-032-1ML	100 µg/mL 1 mL Methanol	
Flurazepam	17617-23-1 C <sub>21</sub> H <sub>23</sub> ClFN <sub>3</sub> O M.W. 387.88	F-003-1ML	1.0 mg/mL 1 mL Methanol	
Flurazepam-D <sub>4</sub>	C <sub>21</sub> H <sub>19</sub> D <sub>4</sub> ClFN <sub>3</sub> O M.W. 391.90	F-044-1ML	100 µg/mL 1 mL Methanol	
α-Hydroxyalprazolam	37115-43-8 C <sub>17</sub> H <sub>13</sub> ClN <sub>4</sub> O M.W. 324.76	A-905-1ML	100 µg/mL 1 mL Methanol	
	37115-43-8 C <sub>17</sub> H <sub>13</sub> ClN <sub>4</sub> O M.W. 324.76	A-907-1ML	1.0 mg/mL 1 mL Methanol	
α-Hydroxyalprazolam-D <sub>5</sub>	136765-24-7 C <sub>17</sub> H <sub>8</sub> ClD <sub>5</sub> N <sub>4</sub> O M.W. 329.80	A-904-1ML	100 µg/mL 1 mL Methanol	
	136765-24-7 C <sub>17</sub> H <sub>8</sub> ClD <sub>5</sub> N <sub>4</sub> O M.W. 329.80	A-908-1ML	1.0 mg/mL 1 mL Methanol	
2-Hydroxyethylflurazepam	20971-53-3 C <sub>17</sub> H <sub>14</sub> ClFN <sub>2</sub> O <sub>2</sub> M.W. 332.76	F-901-1ML	100 µg/mL 1 mL Methanol	
	20971-53-3 C <sub>17</sub> H <sub>14</sub> ClFN <sub>2</sub> O <sub>2</sub> M.W. 332.76	F-902-1ML	1.0 mg/mL 1 mL Methanol	
2-Hydroxyethylflurazepam-D <sub>4</sub>	1397209-35-6 C <sub>17</sub> H <sub>10</sub> ClD <sub>4</sub> FN <sub>2</sub> O <sub>2</sub> M.W. 336.78	H-919-1ML	100 µg/mL 1 mL Methanol	
	1397209-35-6 C <sub>17</sub> H <sub>10</sub> ClD <sub>4</sub> FN <sub>2</sub> O <sub>2</sub> M.W. 336.78	H-923-1ML	1.0 mg/mL 1 mL Methanol	
α-Hydroxyetizolam	64546-10-7 C <sub>17</sub> H <sub>15</sub> ClN <sub>4</sub> OS M.W. 358.85	H-129-1ML	100 µg/mL 1 mL Methanol	
3-Hydroxyflubromazepam	62659-65-8 C <sub>15</sub> H <sub>10</sub> N <sub>2</sub> O <sub>2</sub> FBr M.W. 349.15	H-116-1ML	1.0 mg/mL 1mL 90:10 Acetonitrile:DMSO	

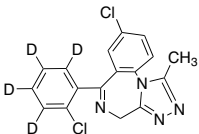
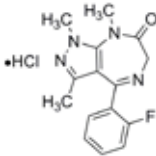


Product Name	ID	Cat. No.	Size	Structure
$\alpha$ -Hydroxymidazolam	59468-90-5 C <sub>18</sub> H <sub>13</sub> ClFN <sub>3</sub> O M.W. 341.77	<b>H-902-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
	59468-90-5 C <sub>18</sub> H <sub>13</sub> ClFN <sub>3</sub> O M.W. 341.77	<b>H-922-1ML</b>	1.0 mg/mL 1 mL Methanol	
$\alpha$ -Hydroxymidazolam-D <sub>4</sub>	C <sub>18</sub> H <sub>9</sub> D <sub>4</sub> ClFN <sub>3</sub> O M.W. 345.79	<b>H-921-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
3-Hydroxyphenazepam	70030-11-4 C <sub>15</sub> H <sub>10</sub> N <sub>2</sub> O <sub>2</sub> BrCl M.W. 365.61	<b>H-113-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
3-Hydroxyphenazepam-D <sub>4</sub>	C <sub>15</sub> H <sub>6</sub> D <sub>4</sub> N <sub>2</sub> O <sub>2</sub> BrCl M.W. 369.63	<b>H-114-1ML</b>	100 $\mu$ g/mL 1 mL Acetonitrile	
$\alpha$ -Hydroxytriazolam	37115-45-0 C <sub>17</sub> H <sub>12</sub> Cl <sub>2</sub> N <sub>4</sub> O M.W. 359.21	<b>T-915-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
	37115-45-0 C <sub>17</sub> H <sub>12</sub> Cl <sub>2</sub> N <sub>4</sub> O M.W. 359.21	<b>T-911-1ML</b>	1.0 mg/mL 1 mL Methanol	
$\alpha$ -Hydroxytriazolam-D <sub>4</sub>	145225-01-0 C <sub>17</sub> H <sub>8</sub> D <sub>4</sub> N <sub>4</sub> OCl <sub>2</sub> M.W. 363.23	<b>T-909-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
	145225-01-0 C <sub>17</sub> H <sub>8</sub> D <sub>4</sub> N <sub>4</sub> OCl <sub>2</sub> M.W. 363.23	<b>T-916-1ML</b>	1.0 mg/mL 1 mL Methanol	
Loprazolam	61197-73-7 C <sub>23</sub> H <sub>21</sub> ClN <sub>6</sub> O <sub>3</sub> M.W. 464.90	<b>L-049-1ML</b>	1.0 mg/mL 1 mL Acetonitrile: DMSO (90:10)	
Lorazepam	846-49-1 C <sub>15</sub> H <sub>10</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>2</sub> M.W. 321.16	<b>L-901-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Lorazepam-D <sub>4</sub>	84344-15-0 C <sub>15</sub> H <sub>6</sub> Cl <sub>2</sub> D <sub>4</sub> N <sub>2</sub> O <sub>2</sub> M.W. 325.18	<b>L-902-1ML</b>	100 $\mu$ g/mL 1 mL Acetonitrile	
	84344-15-0 C <sub>15</sub> H <sub>6</sub> Cl <sub>2</sub> D <sub>4</sub> N <sub>2</sub> O <sub>2</sub> M.W. 325.18	<b>L-911-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Lorazepam glucuronide	32781-79-6 C <sub>21</sub> H <sub>18</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>8</sub> M.W. 497.28	<b>L-021-1ML</b>	100 $\mu$ g/mL 1 mL 50:50 Acetonitrile:Water	

Product Name	ID	Cat. No.	Size	Structure
Lormetazepam	848-75-9 C <sub>16</sub> H <sub>12</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>2</sub> M.W. 335.19	L-907-1ML	1.0 mg/mL 1 mL Methanol	
Lormetazepam- <sup>13</sup> C, <sub>3</sub> D <sub>3</sub>	1285932-00-4 C <sub>15</sub> <sup>13</sup> CH <sub>9</sub> D <sub>3</sub> Cl <sub>2</sub> N <sub>2</sub> O <sub>2</sub> M.W. 339.20	L-051-1ML	100 µg/mL 1 mL Methanol	
Meclonazepam	58662-84-3 C <sub>16</sub> H <sub>12</sub> ClN <sub>3</sub> O <sub>3</sub> M.W. 329.74	M-197-1ML	1.0 mg/mL 1 mL Methanol	
Meclonazepam-D <sub>3</sub>	C <sub>16</sub> H <sub>9</sub> D <sub>3</sub> ClN <sub>3</sub> O <sub>3</sub> M.W. 332.76	M-198-1ML	100 µg/mL 1 mL Methanol	
Medazepam	2898-12-6 C <sub>16</sub> H <sub>15</sub> ClN <sub>2</sub> M.W. 270.76	M-205-1ML	1.0 mg/mL 1 mL Methanol	
Midazolam	59467-70-8 C <sub>18</sub> H <sub>13</sub> ClFN <sub>3</sub> M.W. 325.77	M-908-1ML	1.0 mg/mL 1 mL Methanol	
Midazolam-D <sub>4</sub> maleate	C <sub>18</sub> H <sub>9</sub> D <sub>4</sub> ClFN <sub>3</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 445.86	M-918-1ML	100 µg/mL (as free base) 1 mL Methanol	
Nifloxipam	74723-10-7 C <sub>15</sub> H <sub>10</sub> FN <sub>3</sub> O <sub>4</sub> M.W. 315.26	N-117-1ML	1.0 mg/mL 1 mL 90:10 Acetonitrile: DMSO	
Nifloxipam-D <sub>4</sub>	C <sub>15</sub> H <sub>10</sub> FN <sub>3</sub> O <sub>4</sub> M.W. 319.28	N-118-1ML	100 µg/mL 1 mL 90:10 Acetonitrile: DMSO	
Nimetazepam	2011-67-8 C <sub>16</sub> H <sub>13</sub> N <sub>3</sub> O <sub>3</sub> M.W. 295.29	N-073-1ML	1.0 mg/mL 1 mL Methanol	
Nitrazepam	146-22-5 C <sub>15</sub> H <sub>11</sub> N <sub>3</sub> O <sub>3</sub> M.W. 281.27	N-906-1ML	1.0 mg/mL 1 mL Acetonitrile	

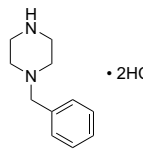
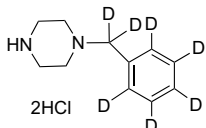
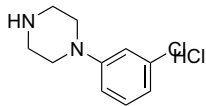
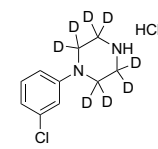
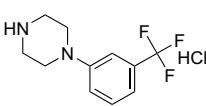
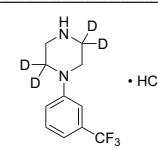
Product Name	ID	Cat. No.	Size	Structure
Nitrazepam-D <sub>5</sub>	136765-45-2 C <sub>15</sub> H <sub>6</sub> D <sub>5</sub> N <sub>3</sub> O <sub>3</sub> M.W. 286.30	<b>N-901-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Norchlordiazepoxide	7722-15-8 C <sub>15</sub> H <sub>12</sub> ClN <sub>3</sub> O M.W. 285.73	<b>N-100-1ML</b>	1.0 mg/mL 1 mL Acetonitrile: DMSO (80:20)	
Norchlordiazepoxide-D <sub>5</sub>	65891-80-7 C <sub>15</sub> H <sub>7</sub> D <sub>5</sub> ClN <sub>3</sub> O M.W. 290.76	<b>N-101-1ML</b>	100 µg/mL 1 mL Acetonitrile: DMSO (90:10)	
Nordiazepam	1088-11-5 C <sub>15</sub> H <sub>11</sub> ClN <sub>2</sub> O M.W. 270.71	<b>N-905-1ML</b>	1.0 mg/mL 1 mL Methanol	
Nordiazepam-D <sub>5</sub>	65891-80-7 C <sub>15</sub> H <sub>6</sub> ClD <sub>5</sub> N <sub>2</sub> O M.W. 275.74	<b>N-903-1ML</b>	100 µg/mL 1 mL Methanol	
	65891-80-7 C <sub>15</sub> H <sub>6</sub> ClD <sub>5</sub> N <sub>2</sub> O M.W. 275.74	<b>N-911-1ML</b>	1.0 mg/mL 1 mL Methanol	
Oxazepam	604-75-1 C <sub>15</sub> H <sub>11</sub> ClN <sub>2</sub> O <sub>2</sub> M.W. 286.71	<b>O-902-1ML</b>	1.0 mg/mL 1 mL Methanol	
Oxazepam-D <sub>5</sub>	65854-78-6 C <sub>15</sub> H <sub>6</sub> ClD <sub>5</sub> N <sub>2</sub> O <sub>2</sub> M.W. 291.74	<b>O-901-1ML</b>	100 µg/mL 1 mL Methanol	
	65854-78-6 C <sub>15</sub> H <sub>6</sub> ClD <sub>5</sub> N <sub>2</sub> O <sub>2</sub> M.W. 291.74	<b>O-904-1ML</b>	1.0 mg/mL 1 mL Methanol	
Oxazepam glucuronide	6801-81-6 C <sub>21</sub> H <sub>19</sub> ClN <sub>2</sub> O <sub>8</sub> M.W. 462.84	<b>O-023-1ML</b>	100 µg/mL 1 mL Methanol	
Oxazepam-D <sub>5</sub> glucuronide	6801-81-6 C <sub>21</sub> H <sub>14</sub> D <sub>5</sub> ClN <sub>2</sub> O <sub>8</sub> M.W. 467.87	<b>O-038-1ML</b>	100 µg/mL 1 mL Methanol	
Phenazepam	51753-57-2 C <sub>15</sub> H <sub>10</sub> N <sub>2</sub> OBrCl M.W. 349.61	<b>P-080-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	

Product Name	ID	Cat. No.	Size	Structure
Phenazepam-D <sub>4</sub>	1184980-42-4 C <sub>15</sub> H <sub>6</sub> D <sub>4</sub> N <sub>2</sub> OBrCl M.W. 353.63	<b>P-093-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Prazepam	2955-38-6 C <sub>19</sub> H <sub>17</sub> N <sub>2</sub> OCl M.W. 324.80	<b>P-906-1ML</b>	1.0 mg/mL 1 mL Methanol	
Prazepam-D <sub>5</sub>	152477-89-9 C <sub>19</sub> H <sub>12</sub> ClD <sub>5</sub> N <sub>2</sub> O M.W. 329.83	<b>P-905-1ML</b>	100 µg/mL 1 mL Methanol	
Pyrazolam	39243-02-2 C <sub>16</sub> H <sub>12</sub> BrN <sub>5</sub> M.W. 354.20	<b>P-118-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Quazepam	36735-22-5 C <sub>17</sub> H <sub>11</sub> ClF <sub>4</sub> N <sub>2</sub> S M.W. 386.79	<b>Q-006-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Temazepam	846-50-4 C <sub>16</sub> H <sub>13</sub> ClN <sub>2</sub> O <sub>2</sub> M.W. 300.74	<b>T-907-1ML</b>	1.0 mg/mL 1 mL Methanol	
Temazepam-D <sub>5</sub>	136765-51-0 C <sub>16</sub> H <sub>8</sub> ClD <sub>5</sub> N <sub>2</sub> O <sub>2</sub> M.W. 305.77	<b>T-902-1ML</b>	100 µg/mL 1 mL Methanol	
	136765-51-0 C <sub>16</sub> H <sub>8</sub> ClD <sub>5</sub> N <sub>2</sub> O <sub>2</sub> M.W. 305.77	<b>T-912-1ML</b>	1.0 mg/mL 1 mL Methanol	
Temazepam glucuronide lithium salt	C <sub>22</sub> H <sub>20</sub> ClN <sub>2</sub> O <sub>8</sub> Li M.W. 482.80	<b>T-050-1ML</b>	100 µg/mL (as free acid) 1 mL Methanol	
Tetrazepam	10379-14-3 C <sub>16</sub> H <sub>17</sub> ClN <sub>2</sub> O M.W. 288.77	<b>T-124-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Triazolam	28911-01-5 C <sub>17</sub> H <sub>12</sub> Cl <sub>2</sub> N <sub>4</sub> M.W. 343.21	<b>T-910-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Triazolam-D <sub>4</sub>	145225-04-3 C <sub>17</sub> H <sub>8</sub> Cl <sub>2</sub> D <sub>4</sub> N <sub>4</sub> M.W. 347.23	T-908-1ML	100 µg/mL 1 mL Methanol	
Zolazepam HCl	33754-49-3 C <sub>15</sub> H <sub>15</sub> FN <sub>4</sub> O·HCl M.W. 322.77	Z-020-1ML	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	

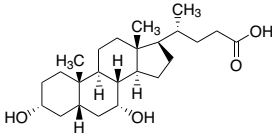
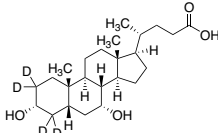
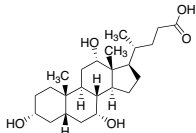
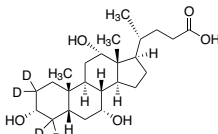
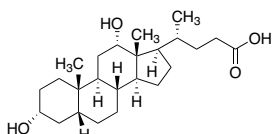
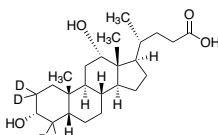
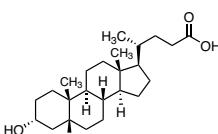
## Benzyl & Phenyl Piperazines

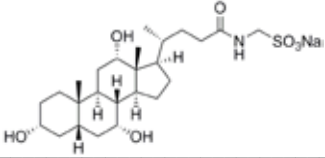
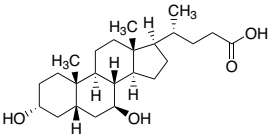
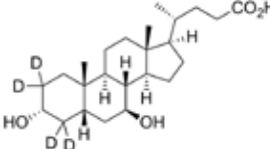
Piperazines are products of synthesis originally marketed as antihelminthic substances and proposed later as antidepressant drugs. Within the past several years, piperazines have emerged in clandestine drug markets as substitutes for controlled substances such as amphetamines and its derivatives due to the similar effects. This class of novel psychoactive substances (NPS) includes benzylpiperazines and phenylpiperazines such as Benzyl piperazine (BZP), 3-Trifluoromethylphenylpiperazine (TFMPP) and 1-(3-Chlorophenyl)piperazine (CPP). These compounds are often claimed by suppliers to be herbal products, though piperazine and its derivatives are all synthetic substances. Benzylpiperazines have a chemical structure similar to amphetamines but only one-tenth of its potency and are likely involved in both dopamine and noradrenaline release and inhibition of monoamine reuptake. In contrast, phenylpiperazines primarily enhance the release of serotonin by acting on the serotonin receptor or the reuptake transporter.

Product Name	ID	Cat. No.	Size	Structure
Benzyl piperazine diHCl	5321-63-1 C <sub>11</sub> H <sub>16</sub> N <sub>2</sub> ·diHCl M.W. 249.18	<b>B-906-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Benzyl piperazine-D <sub>7</sub> diHCl	1141738-08-0 C <sub>11</sub> H <sub>9</sub> D <sub>7</sub> N <sub>2</sub> ·diHCl M.W. 256.22	<b>B-907-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
1-(3-Chlorophenyl)piperazine (mCPP) HCl	65369-76-8 C <sub>10</sub> H <sub>13</sub> ClN <sub>2</sub> ·HCl M.W. 233.14	<b>C-089-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
1-(3-Chlorophenyl)piperazine-D <sub>8</sub> HCl	1313393-63-3 C <sub>10</sub> H <sub>5</sub> D <sub>8</sub> ClN <sub>2</sub> ·HCl M.W. 241.19	<b>C-112-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
3-Trifluoromethylphenyl piperazine (TFMPP) HCl	16015-69-3 C <sub>11</sub> H <sub>13</sub> F <sub>3</sub> N <sub>2</sub> ·HCl M.W. 266.69	<b>T-045-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
3-Trifluoromethylphenyl piperazine (TFMPP)-D <sub>4</sub> HCl	15532-75-9 C <sub>11</sub> H <sub>9</sub> D <sub>4</sub> F <sub>3</sub> N <sub>2</sub> ·HCl M.W. 270.72	<b>T-920-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	

## Bile Acids

Bile acids are important signaling molecules with high relevance for many biological processes, found in the bile of mammals and other vertebrates. Despite their function to allow digestion of dietary fats and oils by acting as a surfactant that emulsifies them into micelles, bile acids also act as steroid hormones having various direct metabolic effects. Primary bile acids are synthesized by the liver, while secondary bile acids result from bacterial actions in the colon. In humans, the steroid acids taurocholic acid, glycocholic acid, taurochenodeoxycholic acid and glycochenodeoxycholic acid are the major bile acids found in bile. Bile acids are involved in the cholesterol metabolism and do have clinical significance in gastroenterology, hepatology, and gastroenterological oncology. For example, the measurement of the total bile acid pool to diagnose liver injury is clinical routine. Information on the individual composition of the bile acid pool can furthermore provide important insight into generation and metabolism of bile acids by both the gut microbiome and the liver.

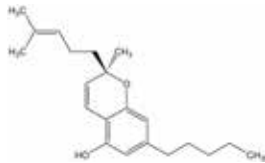
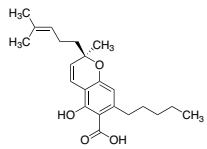
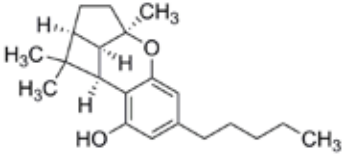
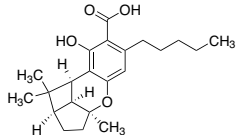
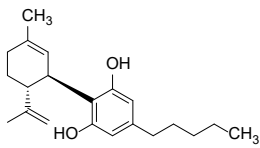
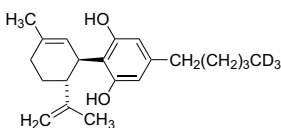
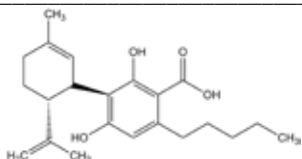
Product Name	ID	Cat. No.	Size	Structure
Chenodeoxycholic acid	474-25-9 C <sub>24</sub> H <sub>40</sub> O <sub>4</sub> M.W. 392.57	<b>C-145-1ML</b>	500 µg/mL 1 mL Methanol	
Chenodeoxycholic acid-D <sub>4</sub>	99102-69-9 C <sub>24</sub> H <sub>36</sub> D <sub>4</sub> O <sub>4</sub> M.W. 396.60	<b>C-147-1ML</b>	100 µg/mL 1 mL Methanol	
Cholic acid	81-25-4 C <sub>24</sub> H <sub>40</sub> O <sub>5</sub> M.W. 408.57	<b>C-146-1ML</b>	500 µg/mL 1 mL Methanol	
Cholic acid-D <sub>4</sub>	116380-66-6 C <sub>24</sub> H <sub>36</sub> D <sub>4</sub> O <sub>5</sub> M.W. 412.60	<b>C-148-1ML</b>	100 µg/mL 1 mL Methanol	
Deoxycholic acid	83-44-3 C <sub>24</sub> H <sub>40</sub> O <sub>4</sub> M.W. 392.57	<b>D-126-1ML</b>	500 µg/mL 1 mL Methanol	
Deoxycholic acid-D <sub>4</sub>	112076-61-6 C <sub>24</sub> H <sub>36</sub> D <sub>4</sub> O <sub>4</sub> M.W. 396.60	<b>D-127-1ML</b>	100 µg/mL 1 mL Methanol	
Lithocholic acid	434-13-9 C <sub>24</sub> H <sub>40</sub> O <sub>3</sub> M.W. 376.57	<b>L-042-1ML</b>	50 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Taurocholic acid sodium salt	145-42-6 C <sub>26</sub> H <sub>44</sub> NNaO <sub>7</sub> S M.W. 537.80	<b>T-110-1ML</b>	500 µg/mL ( <i>as free sulfate</i> ) 1 mL Methanol	
Ursodeoxycholic acid	128-13-2 C <sub>24</sub> H <sub>40</sub> O <sub>4</sub> M.W. 392.57	<b>U-001-1ML</b>	500 µg/mL 1 mL Methanol	
Ursodeoxycholic acid-D <sub>4</sub>	347841-46-7 C <sub>24</sub> H <sub>36</sub> D <sub>4</sub> O <sub>4</sub> M.W. 396.60	<b>U-002-1ML</b>	100 µg/mL 1 mL Methanol	

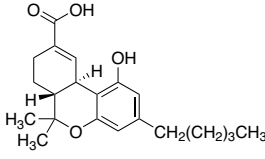
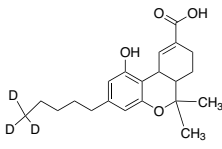
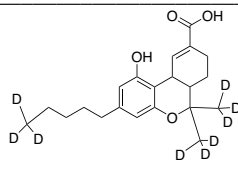
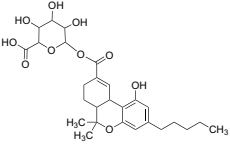
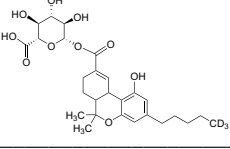
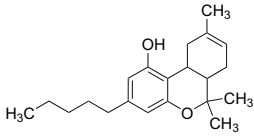
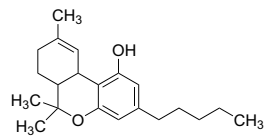
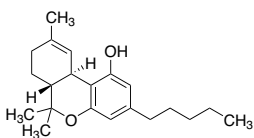
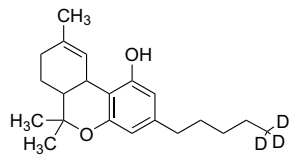


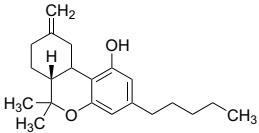
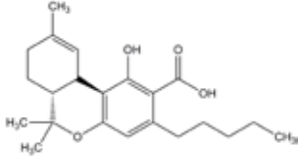
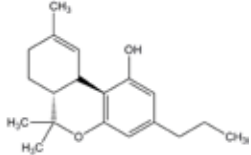
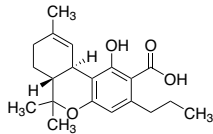
## Cannabinoids

Cannabinoids are a class of psychoactive and non-psychoactive compounds produced in the Cannabis plant, commonly referred to as marijuana, and represent one of the most widely used drug classes worldwide. These drugs can produce intense psychological and physiological effects including auditory and visual hallucinations, anxiety, and euphoria. Despite their use as recreational drugs, these compounds have recently shown potential therapeutic efficacy in the treatment of many ailments from arthritis and chronic pain to glaucoma, epilepsy, and cancer. Whether smoked, consumed in food, applied as a cosmetic, or concentrated in a pill, cannabinoids found in Cannabis vary in potency, type, and specific therapeutic benefit and need to be tested to ensure cannabinoid identity as well as consistent purity and concentration. In North America and Europe, cannabis testing laboratories have introduced chromatographic MS based methods to quantify cannabinoids in medical and recreational cannabis to assess potency and specific therapeutic benefit. Because of their prevalence in drugged driving and medicolegal investigations, cannabinoids are routinely analyzed using GC/MS and LC/MS methods in forensic and clinical toxicology applications including postmortem, urine, and confirmation drug testing.

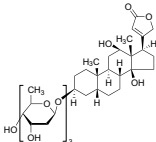
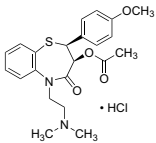
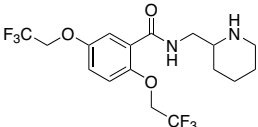
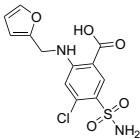
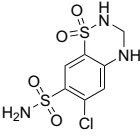
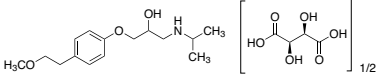
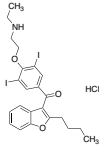
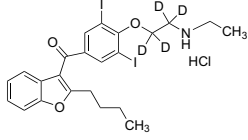
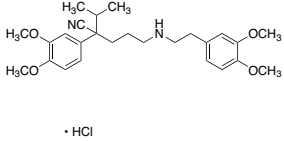
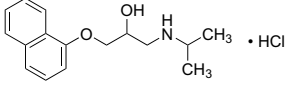
Product Name	ID	Cat. No.	Size	Structure
Cannabichromene (CBC)	20675-51-8 C <sub>21</sub> H <sub>30</sub> O <sub>2</sub> M.W. 314.46	C-143-1ML	1.0 mg/mL 1 mL Methanol	
Cannabichromenic Acid (CBCA)	185505-15-1 C <sub>22</sub> H <sub>30</sub> O <sub>4</sub> M.W. 358.47	C-150-1ML	1.0 mg/mL 1 mL Acetonitrile	
(±)-Cannabicyclol (CBL)	21366-63-2 C <sub>21</sub> H <sub>30</sub> O <sub>2</sub> M.W. 314.46	C-154-1ML	1.0 mg/mL 1 mL Acetonitrile	
Cannabicyclolic Acid (CBLA)	40524-99-0 C <sub>22</sub> H <sub>30</sub> O <sub>4</sub> M.W. 358.47	C-171-1ML	0.5 mg/mL 1 mL Acetonitrile	
Cannabidiol	13956-29-1 C <sub>21</sub> H <sub>30</sub> O <sub>2</sub> M.W. 314.46	C-045-1ML	1.0 mg/mL 1 mL Methanol	
Cannabidiol-D <sub>3</sub>	C <sub>21</sub> H <sub>27</sub> D <sub>3</sub> O <sub>2</sub> M.W. 317.48	C-084-1ML	100 µg/mL 1 mL Methanol	
Cannabidiolic acid (CBDA)	1244-58-2 C <sub>22</sub> H <sub>30</sub> O <sub>4</sub> M.W. 358.47	C-144-1ML	1.0 mg/mL 1 mL Acetonitrile	

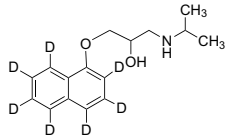
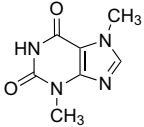
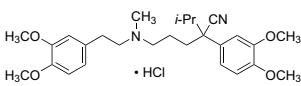
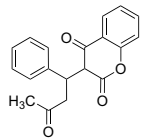
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Cannabidivarin (CBDV)	24274-48-4 C <sub>19</sub> H <sub>26</sub> O <sub>2</sub> M.W. 286.41	<b>C-140-1ML</b>	1.0 mg/mL 1 mL Methanol	
Cannabidivarinic Acid (CBDVA)	31932-13-5 C <sub>20</sub> H <sub>26</sub> O <sub>4</sub> M.W. 330.42	<b>C-152-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Cannabigerol (CBG)	25654-31-3 C <sub>21</sub> H <sub>32</sub> O <sub>2</sub> M.W. 316.48	<b>C-141-1ML</b>	1.0 mg/mL 1 mL Methanol	
Cannabigerolic acid (CBGA)	25555-57-1 C <sub>22</sub> H <sub>32</sub> O <sub>4</sub> M.W. 360.49	<b>C-142-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Cannabinol	521-35-7 C <sub>21</sub> H <sub>26</sub> O <sub>2</sub> M.W. 310.43	<b>C-046-1ML</b>	1.0 mg/mL 1 mL Methanol	
Cannabinol-D <sub>3</sub>	1435934-54-5 C <sub>21</sub> H <sub>23</sub> D <sub>3</sub> O <sub>2</sub> M.W. 313.45	<b>C-115-1ML</b>	100 µg/mL 1 mL Methanol	
Cannabinolic Acid (CBNA)	2808-39-1 C <sub>22</sub> H <sub>26</sub> O <sub>4</sub> M.W. 354.44	<b>C-153-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
(±)-11-Hydroxy-Δ <sup>9</sup> -THC	34675-49-5 C <sub>21</sub> H <sub>30</sub> O <sub>3</sub> M.W. 330.46	<b>H-026-1ML</b>	100 µg/mL 1 mL Methanol	
	34675-49-5 C <sub>21</sub> H <sub>30</sub> O <sub>3</sub> M.W. 330.46	<b>H-027-1ML</b>	1.0 mg/mL 1 mL Methanol	
(±)-11-Hydroxy-Δ <sup>9</sup> -THC-D <sub>3</sub>	362044-74-4 C <sub>21</sub> H <sub>27</sub> D <sub>3</sub> O <sub>3</sub> M.W. 333.48	<b>H-041-1ML</b>	100 µg/mL 1 mL Methanol	
(±)-11-nor-9-Carboxy-Δ <sup>9</sup> -THC	104874-50-2 C <sub>21</sub> H <sub>28</sub> O <sub>4</sub> M.W. 344.45	<b>T-006-1ML</b>	100 µg/mL 1 mL Methanol	
<i>(Racemic mixture - not to be used for immunoassay)</i>	104874-50-2 C <sub>21</sub> H <sub>28</sub> O <sub>4</sub> M.W. 344.44	<b>T-010-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
(-)-11-nor-9-Carboxy- $\Delta^9$ -THC <i>(Suitable for use with immunoassay)</i>	56354-06-4	<b>T-018-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
	56354-06-4	<b>T-019-1ML</b>	1.0 mg/mL 1 mL Methanol	
( $\pm$ )-11-nor-9-Carboxy- $\Delta^9$ -THC- $D_3$	136844-96-7	<b>T-004-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
	136844-96-7	<b>T-008-1ML</b>	1.0 mg/mL 1 mL Methanol	
( $\pm$ )-11-nor-9-Carboxy- $\Delta^9$ -THC- $D_9$	136765-52-1	<b>T-007-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
	136765-52-1	<b>T-009-1ML</b>	1.0 mg/mL 1 mL Methanol	
(+)-11-nor-9-Carboxy- $\Delta^9$ -THC glucuronide	1362113-32-3	<b>T-038-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
( $\pm$ )-cis-11-nor-9-Carboxy- $\Delta^9$ -THC- $D_3$ glucuronide		<b>T-080-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
(-)- $\Delta^9$ -THC	5957-75-5	<b>T-032-1ML</b>	1.0 mg/mL 1 mL Methanol	
( $\pm$ )- $\Delta^9$ -THC <i>(For Qualitative Use Only)</i>	6465-30-1	<b>T-047-1ML</b>	100 $\mu$ g/mL 1 mL n-Heptane	
(-)- $\Delta^9$ -THC	1972-08-3	<b>T-005-1ML</b>	1.0 mg/mL 1 mL Methanol	
(-)- $\Delta^9$ -THC- $D_3$	81586-39-2	<b>T-003-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
	81586-39-2	<b>T-011-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
exo-THC	27179-28-8 C <sub>21</sub> H <sub>30</sub> O <sub>2</sub> M.W. 314.46	T-033-1ML	1.0 mg/mL 1 mL Methanol	
Δ <sup>9</sup> -Tetrahydrocannabinolic acid A (THCA-A)	23978-85-0 C <sub>22</sub> H <sub>30</sub> O <sub>4</sub> M.W. 358.47	T-093-1ML	1.0 mg/mL 1 mL Acetonitrile	
Tetrahydrocannabivarin (THCV)	31262-37-0 C <sub>19</sub> H <sub>26</sub> O <sub>2</sub> M.W. 286.41	T-094-1ML	1.0 mg/mL 1 mL Methanol	
Tetrahydrocannabivarinic Acid (THCVA)	39986-26-0 C <sub>20</sub> H <sub>26</sub> O <sub>4</sub> M.W. 330.42	T-111-1ML	1.0 mg/mL 1 mL Acetonitrile	



Product Name	ID	Cat. No.	Size	Structure
Digoxin	20830-75-5 C <sub>41</sub> H <sub>64</sub> O <sub>14</sub> M.W. 780.94	<b>D-029-1ML</b>	1.0 mg/mL 1 mL Methanol	
Diltiazem HCl	33286-22-5 C <sub>22</sub> H <sub>26</sub> N <sub>2</sub> O <sub>4</sub> S·HCl M.W. 450.98	<b>D-035-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Acetonitrile	
(±)-Flecainide	54143-55-4 C <sub>17</sub> H <sub>20</sub> F <sub>6</sub> N <sub>2</sub> O <sub>3</sub> M.W. 414.34	<b>F-017-1ML</b>	1.0 mg/mL 1 mL Methanol	
Furosemide	54-31-9 C <sub>12</sub> H <sub>11</sub> ClN <sub>2</sub> O <sub>5</sub> S M.W. 330.74	<b>F-005-1ML</b>	1.0 mg/mL 1 mL Methanol	
Hydrochlorothiazide	58-93-5 C <sub>7</sub> H <sub>8</sub> ClN <sub>3</sub> O <sub>4</sub> S <sub>2</sub> M.W. 297.74	<b>H-001-1ML</b>	1.0 mg/mL 1 mL Methanol	
Metoprolol tartrate	56392-17-7 C <sub>15</sub> H <sub>25</sub> NO <sub>3</sub> ·½[C <sub>4</sub> H <sub>6</sub> O <sub>6</sub> ] M.W. 342.41	<b>M-123-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
N-Desethylamiodarone HCl	96027-74-6 C <sub>23</sub> H <sub>25</sub> I <sub>2</sub> NO <sub>3</sub> ·HCl M.W. 653.72	<b>D-055-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
N-Desethylamiodarone-D <sub>4</sub> HCl	1189960-80-2 C <sub>23</sub> H <sub>21</sub> D <sub>4</sub> I <sub>2</sub> NO <sub>3</sub> ·HCl M.W. 657.74	<b>D-056-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
(±)-Norverapamil HCl	67812-42-4 C <sub>26</sub> H <sub>36</sub> N <sub>2</sub> O <sub>4</sub> ·HCl M.W. 477.04	<b>N-112-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Propranolol HCl	318-98-9 C <sub>16</sub> H <sub>21</sub> NO <sub>2</sub> ·HCl M.W. 295.80	<b>P-055-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
(±)-Propranolol-D <sub>7</sub> (ring-D <sub>7</sub> )	344298-99-3 C <sub>16</sub> H <sub>14</sub> D <sub>7</sub> NO <sub>2</sub> M.W. 266.39	P-085-1ML	100 µg/mL 1 mL Methanol with 5% 1M HCl	
Theobromine	83-67-0 C <sub>7</sub> H <sub>8</sub> N <sub>4</sub> O <sub>2</sub> M.W. 180.16	T-013-1ML	100 µg/mL 1 mL Methanol	
Verapamil HCl	152-11-4 C <sub>27</sub> H <sub>38</sub> N <sub>2</sub> O <sub>4</sub> ·HCl M.W. 491.06	V-002-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Warfarin	81-81-2 C <sub>19</sub> H <sub>16</sub> O <sub>4</sub> M.W. 308.33	W-003-1ML	1.0 mg/mL 1 mL Acetonitrile	

## 0.1% formic acid UHPLC solvent blends

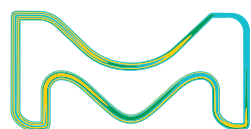
Consistent and easy mobile phase prep  
for every run.

### 0.1% formic acid blends for Methanol, Acetonitrile & Water

- High purity for extremely low detection limits
- Lot-to-lot reproducibility, extensive QC testing
- Microfiltered (0.2 µm)
- Packaged in borosilicate glass containers
- Extremely low levels of alkali metal impurities

For more information, visit:

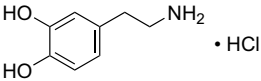
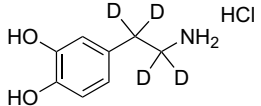
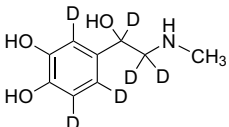
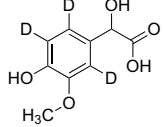
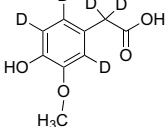
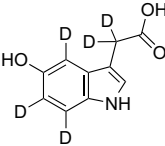
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Analytical Products

## Catecholamines

Catecholamines, or biogenic amines, are monoamine neurotransmitters derived from the amino acid tyrosine. This group of biologically active compounds plays a critical role in physiological functions, such as brain activity, the regulation of body temperature and stomach pH. Catecholamines are important parameters for the diagnosis of several diseases such as pheochromocytoma or other tumors of the nervous system. Epinephrine (adrenaline), norepinephrine (noradrenaline) and dopamine are a group of biogenic amines known as catecholamines. They are produced mainly by the chromaffin cells in the medulla of the adrenal gland. Significantly raised levels of catecholamines and their primary metabolites, metanephrines, including metanephrine, normetanephrine and 3-methoxytyramine, are used diagnostically as markers for the presence of a pheochromocytoma in symptomatic patients. Vanillylmandelic acid (VMA) and homovanillic acid (HVA) are end products of catecholamine metabolism. Increased urinary excretion of VMA and HVA is a diagnostic marker for neuroblastoma, one of the most common solid cancers in early childhood. The biogenic amine, serotonin, is an important neurotransmitter in the central nervous system. Several disorders are associated with pathological changes in serotonin concentrations. Serotonin deficiencies are related to disorders such as depression, schizophrenia, and Parkinson's disease. Serotonin excess on the other hand is attributed to carcinoid tumors. The determination of serotonin or its metabolite 5-hydroxyindoleacetic acid (5-HIAA) is a standard diagnostic test for carcinoid tumors.

Product Name	ID	Cat. No.	Size	Structure
Dopamine HCl	62-31-7 C <sub>8</sub> H <sub>11</sub> NO <sub>2</sub> ·HCl M.W. 189.64	<b>D-081-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol with 5% 1M HCl	
Dopamine-D <sub>4</sub> HCl	203633-19-6 C <sub>8</sub> H <sub>7</sub> D <sub>4</sub> NO <sub>2</sub> ·HCl M.W. 193.66	<b>D-072-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol with 5% 1M HCl	
(±)-Epinephrine-D <sub>6</sub>	C <sub>9</sub> H <sub>7</sub> D <sub>6</sub> NO <sub>3</sub> M.W. 189.24	<b>E-077-1ML</b>	100 µg/mL 1 mL Methanol with 5% 1M HCl	
(±)-4-Hydroxy-3-methoxymandelic acid-D <sub>3</sub>	C <sub>9</sub> H <sub>7</sub> D <sub>3</sub> O <sub>5</sub> M.W. 201.19	<b>H-091-1ML</b>	100 µg/mL 1 mL Methanol	
4-Hydroxy-3-methoxyphenyl-D <sub>3</sub> -acetic-D <sub>2</sub> acid (HVA-D <sub>5</sub> )	C <sub>9</sub> H <sub>5</sub> D <sub>5</sub> O <sub>4</sub> M.W. 187.20	<b>H-092-1ML</b>	100 µg/mL 1 mL Methanol	
5-Hydroxyindole-4,6,7-D <sub>3</sub> -3-acetic-D <sub>2</sub> acid (5-HIAA-D <sub>5</sub> )	1219802-93-3 C <sub>10</sub> H <sub>4</sub> D <sub>5</sub> NO <sub>3</sub> M.W. 196.21	<b>H-093-1ML</b>	100 µg/mL 1 mL Methanol	



Product Name	ID	Cat. No.	Size	Structure
(±)-Metanephrine-D <sub>3</sub> HCl		<b>M-148-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
	C <sub>10</sub> H <sub>12</sub> D <sub>3</sub> NO <sub>3</sub> ·HCl M.W. 236.71			
3-Methoxytyramine HCl	1477-68-5	<b>M-171-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
	C <sub>9</sub> H <sub>13</sub> NO <sub>2</sub> ·HCl M.W. 203.67			
3-Methoxytyramine-D <sub>4</sub> HCl	1216788-76-9	<b>M-172-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
	C <sub>9</sub> H <sub>9</sub> D <sub>4</sub> NO <sub>2</sub> ·HCl M.W. 207.69			
(±)-Norepinephrine-D <sub>6</sub> HCl	1219803-04-9	<b>N-069-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
	C <sub>8</sub> H <sub>9</sub> D <sub>6</sub> NO <sub>3</sub> ·HCl M.W. 211.68			
(±)-Normetanephrine-D <sub>3</sub> HCl	1085333-97-6	<b>N-068-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
	C <sub>9</sub> H <sub>10</sub> D <sub>3</sub> NO <sub>3</sub> ·HCl M.W. 222.68			

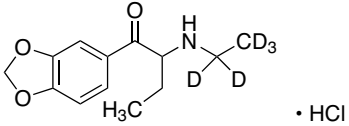
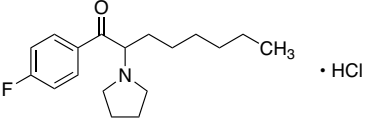
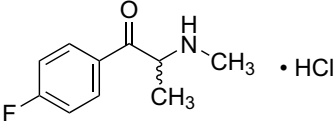
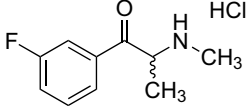
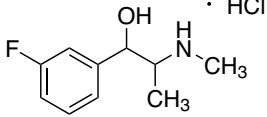
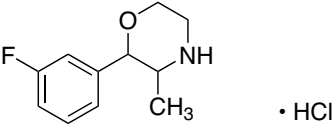
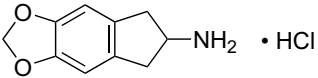
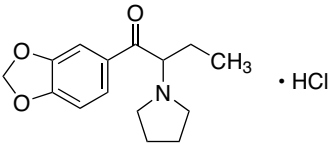
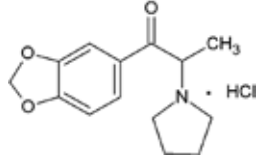
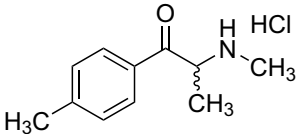
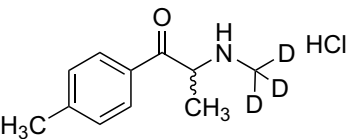
## Cathinones

Synthetic cathinones are  $\beta$ -ketoamphetamines structurally related to amphetamines and cause similar effects. These novel amphetamine type stimulants (ATSs) all originate from cathinone, an alkaloid with stimulant properties present in the leaves of *Catha edulis*, known as khat and emerged in illicit drug markets as substitutes for controlled substances in the mid 2000s. Marketed as bath salts, bath crystals or plant food, they are commonly known as Blue Silk, Purple Wave, White Knight, White Lightening, Ocean Burst, Ivory Snow, Ivory Wave, Pure Ivory, Snow Leopard, Stardust, and Vanilla Sky. 4-Methylmethcathinone (mephedrone), 3,4-methylenedioxymethcathinone (methylone), and 3,4-methylenedioxyprovalerone (MDPV) are the most commonly used synthetic cathinones. Synthetic cathinones represent a valid alternative to MDMA and cocaine to drug users due to their hallucinogenic and stimulant properties, low cost and being perceived as more potent and with less side effects than other stimulants. Repeated use of these substances may lead to dependence and withdrawal symptoms such as tiredness, impaired concentration, insomnia, and nasal congestion. Mephedrone and MDPV were classified as Schedule I of the Controlled Substances Act of 2012 in the United States, followed by methylone and 40 other substances in 2013. In Europe, mephedrone started being controlled in December 2010, but it was soon replaced by new synthetic cathinones.

Product Name	ID	Cat. No.	Size	Structure
4-Bromomethcathinone HCl (4-BMC HCl)	135333-27-6 C <sub>10</sub> H <sub>12</sub> BrNO·HCl M.W. 242.11	<b>B-072-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Buphedrone HCl	166593-10-8 C <sub>11</sub> H <sub>15</sub> NO·HCl M.W. 213.70	<b>B-047-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Buphedrone Ephedrine Metabolite HCl	63991-28-6 C <sub>11</sub> H <sub>17</sub> NO·HCl M.W. 215.72	<b>B-050-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Buphedrone Ephedrine Metabolite-D <sub>3</sub> HCl	C <sub>11</sub> H <sub>14</sub> D <sub>3</sub> NO·HCl M.W. 218.74	<b>B-051-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Butylone HCl	17762-90-2 C <sub>12</sub> H <sub>15</sub> NO <sub>3</sub> ·HCl M.W. 257.71	<b>B-045-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Butylone-D <sub>3</sub> HCl	1231710-63-6 C <sub>12</sub> H <sub>12</sub> D <sub>3</sub> NO <sub>3</sub> ·HCl M.W. 260.73	<b>B-046-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
R(+)-Cathinone HCl	76333-53-4 C <sub>9</sub> H <sub>11</sub> NO·HCl M.W. 185.65	<b>C-028-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	

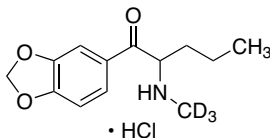
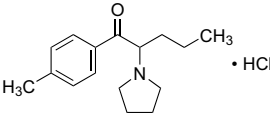
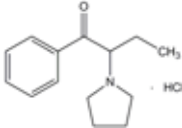
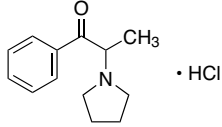
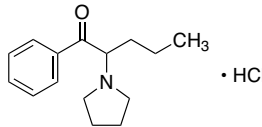
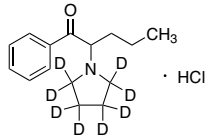
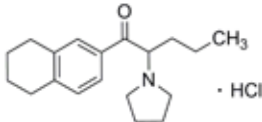
Product Name	ID	Cat. No.	Size	Structure
S(-)-Cathinone HCl	72739-14-1 C <sub>9</sub> H <sub>11</sub> NO·HCl M.W. 185.65	<b>C-019-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Cathinone-D <sub>5</sub> HCl	C <sub>9</sub> H <sub>6</sub> D <sub>5</sub> NO·HCl M.W. 190.68	<b>C-155-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
4-Chloroethcathinone HCl	22198-75-0 C <sub>11</sub> H <sub>14</sub> ClNO·HCl M.W. 248.15	<b>C-169-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
4-Chloroethcathinone-D <sub>5</sub> HCl	C <sub>11</sub> H <sub>9</sub> D <sub>5</sub> ClNO·HCl M.W. 253.18	<b>C-170-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
4-Chloromethcathinone HCl (4-CMC HCl)	C <sub>10</sub> H <sub>12</sub> ClNO·HCl M.W. 197.66	<b>C-174-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
4-Cl-α-PPP HCl	93307-24-5 C <sub>13</sub> H <sub>16</sub> ClNO·HCl M.W. 237.73	<b>C-173-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
4-Cl-α-PVP HCl	5537-17-7 C <sub>15</sub> H <sub>20</sub> ClNO·HCl M.W. 265.78	<b>C-172-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Dibutylone HCl	17763-12-1 C <sub>13</sub> H <sub>17</sub> NO <sub>3</sub> ·HCl M.W. 271.74	<b>D-161-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Dibutylone-D <sub>3</sub> HCl	C <sub>13</sub> H <sub>14</sub> D <sub>3</sub> NO <sub>3</sub> ·HCl M.W. 274.76	<b>D-162-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
5-Dihydrobenzofuran-pyrovalerone HCl (5-DBFPV HCl)	C <sub>17</sub> H <sub>23</sub> NO <sub>2</sub> ·HCl M.W. 309.83	<b>D-129-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
3,4-Dimethylmethcathinone HCl	1081772-06-6 C <sub>12</sub> H <sub>17</sub> NO·HCl M.W. 227.73	D-093-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
3,4-Dimethylmethcathinone Norephedrine Metabolite HCl	C <sub>11</sub> H <sub>17</sub> NO·HCl M.W. 215.72	D-096-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
N-Ethylcathinone HCl	51553-17-4 C <sub>11</sub> H <sub>15</sub> NO·HCl M.W. 213.70	E-080-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-N-Ethylcathinone Ephedrine Metabolite HCl	63401-08-1 C <sub>11</sub> H <sub>17</sub> NO·HCl M.W. 215.72	E-084-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-N-Ethylcathinone Ephedrine Metabolite-D <sub>5</sub> HCl	C <sub>11</sub> H <sub>12</sub> D <sub>5</sub> NO·HCl M.W. 220.75	E-085-1ML	100 µg/mL (as free base) 1 mL Methanol	
4-Ethylmethcathinone HCl	C <sub>12</sub> H <sub>17</sub> NO·HCl M.W. 227.73	E-090-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Ethylone HCl	C <sub>11</sub> H <sub>15</sub> NO <sub>3</sub> ·HCl M.W. 257.71	E-071-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Ethylone-D <sub>5</sub> HCl	C <sub>12</sub> H <sub>10</sub> D <sub>5</sub> NO <sub>3</sub> ·HCl M.W. 262.74	E-072-1ML	100 µg/mL (as free base) 1 mL Methanol	
N-Ethylpentylone HCl	17763-02-9 C <sub>14</sub> H <sub>19</sub> NO <sub>3</sub> ·HCl M.W. 249.31	E-129-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
N-Ethylpentylone-D <sub>5</sub> HCl	C <sub>14</sub> H <sub>14</sub> D <sub>5</sub> NO <sub>3</sub> ·HCl M.W. 290.80	E-130-1ML	100 µg/mL (as free base) 1 mL Methanol	
Eutylone HCl	17764-18-0 C <sub>13</sub> H <sub>17</sub> NO <sub>3</sub> ·HCl M.W. 271.74	E-087-1ML	1.0 mg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Eutylone-D <sub>5</sub> HCl	C <sub>13</sub> H <sub>12</sub> D <sub>5</sub> NO <sub>3</sub> ·HCl M.W. 276.77	<b>E-091-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
4-Fluoro-α-POP HCl (4-Fluoro PV <sub>9</sub> HCl)	C <sub>18</sub> H <sub>26</sub> FNO·HCl M.W. 327.87	<b>F-041-1ML</b>	1.0 mg/mL 1 mL Methanol	
4-Fluoromethcathinone HCl (Flephedrone HCl)	7589-35-7 C <sub>10</sub> H <sub>12</sub> FNO·HCl M.W. 217.67	<b>F-015-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
3-Fluoromethcathinone HCl	1346600-40-5 C <sub>10</sub> H <sub>12</sub> FNO·HCl M.W. 217.67	<b>F-016-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
(±)-3-Fluoromethcathinone Ephedrine Metabolite HCl	C <sub>10</sub> H <sub>14</sub> FNO·HCl M.W. 219.68	<b>F-039-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
(±)-3-Fluorophenmetrazine HCl	1803562-83-5 C <sub>11</sub> H <sub>14</sub> FNO·HCl M.W. 231.69	<b>F-042-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
MDAI HCl	132741-81-2 C <sub>10</sub> H <sub>11</sub> NO <sub>2</sub> ·HCl M.W. 213.66	<b>M-144-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Acetonitrile:Water (90:10) with 5% 1M HCl	
MDPBP HCl (3',4'- Methylenedioxy-α- pyrrolidinobutiophenone HCl)	24622-60-4 C <sub>15</sub> H <sub>19</sub> NO <sub>3</sub> ·HCl M.W. 297.78	<b>M-154-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
MDPPP HCl (3',4'-Methylenedioxy-α- pyrrolidinopropiophenone HCl)	24698-57-5 C <sub>14</sub> H <sub>17</sub> NO <sub>3</sub> ·HCl M.W. 283.75	<b>M-176-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Mephedrone HCl	1189726-22-4 C <sub>11</sub> H <sub>15</sub> NO·HCl M.W. 213.70	<b>M-138-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Mephedrone-D <sub>3</sub> HCl	1189972-79-9 C <sub>11</sub> H <sub>12</sub> D <sub>3</sub> NO·HCl M.W. 216.72	<b>M-139-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
R(+)-Methcathinone HCl	152610-69-0 C <sub>10</sub> H <sub>13</sub> NO·HCl M.W. 199.68	M-061-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
S(-)-Methcathinone HCl	66514-93-0 C <sub>10</sub> H <sub>13</sub> NO·HCl M.W. 199.68	M-055-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-Methcathinone-D <sub>3</sub> HCl	1246819-12-4 C <sub>10</sub> H <sub>10</sub> D <sub>3</sub> NO·HCl M.W. 202.70	M-189-1ML	100 µg/mL (as free base) 1 mL Acetonitrile	
Methedrone HCl (4-Methoxymethcathinone HCl)	879665-92-6 C <sub>11</sub> H <sub>15</sub> NO <sub>2</sub> ·HCl M.W. 229.70	M-147-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Methedrone Norpseudoephedrine Metabolite HCl	63991-23-1 C <sub>10</sub> H <sub>15</sub> NO <sub>2</sub> ·HCl M.W. 217.69	M-190-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
3,4-Methylenedioxypyrovalerone HCl (MDPV)	24622-62-6 C <sub>16</sub> H <sub>21</sub> NO <sub>3</sub> ·HCl M.W. 311.80	M-146-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
3,4-Methylenedioxypyrovalerone-D <sub>8</sub> HCl (MDPV-D <sub>8</sub> HCl)	1246820-09-6 C <sub>16</sub> H <sub>13</sub> D <sub>8</sub> NO <sub>3</sub> ·HCl M.W. 319.85	M-150-1ML	100 µg/mL (as free base) 1 mL Methanol	
Methylephedrine	552-79-4 C <sub>11</sub> H <sub>17</sub> NO M.W. 179.26	M-129-1ML	1.0 mg/mL 1 mL Methanol	
(±)-4-Methylephedrine HCl (Mephedrone Metabolite)	27465-53-8 C <sub>11</sub> H <sub>17</sub> NO·HCl M.W. 215.72	M-158-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-4-Methylephedrine-D <sub>3</sub> HCl (Mephedrone Metabolite)	C <sub>11</sub> H <sub>14</sub> D <sub>3</sub> NO·HCl M.W. 218.74	M-160-1ML	100 µg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
4-Methylethcathinone HCl	1266688-86-1 C <sub>12</sub> H <sub>17</sub> NO·HCl M.W. 227.73	<b>M-155-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-4-Methyl-N-ethyl-norephedrine HCl (4-MEC Metabolite)	C <sub>12</sub> H <sub>19</sub> NO·HCl M.W. 229.75	<b>M-159-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-4-Methyl-N-ethyl-norephedrine-D <sub>5</sub> HCl (4-MEC Metabolite)	C <sub>12</sub> H <sub>14</sub> D <sub>5</sub> NO·HCl M.W. 234.78	<b>M-161-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
4-Methyl-N-ethyl-pentadronone HCl (4-MEAP HCl)	18297-05-7 C <sub>14</sub> H <sub>21</sub> NO·HCl M.W. 255.78	<b>M-199-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Methylone HCl	186028-80-8 C <sub>11</sub> H <sub>13</sub> NO <sub>3</sub> ·HCl M.W. 243.69	<b>M-140-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Methylone-D <sub>3</sub> HCl	1246820-21-2 C <sub>11</sub> H <sub>10</sub> D <sub>3</sub> NO <sub>3</sub> ·HCl M.W. 246.71	<b>M-141-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Naphyrone HCl	850352-11-3 C <sub>19</sub> H <sub>23</sub> NO·HCl M.W. 317.85	<b>N-067-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Naphyrone-D <sub>5</sub> HCl	C <sub>19</sub> H <sub>18</sub> D <sub>5</sub> NO·HCl M.W. 322.88	<b>N-085-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Pentadronone HCl	879669-95-1 C <sub>12</sub> H <sub>17</sub> NO·HCl M.W. 227.73	<b>P-087-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Pentylone HCl	17763-01-8 C <sub>13</sub> H <sub>17</sub> NO <sub>3</sub> ·HCl M.W. 271.74	<b>P-086-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Pentylone-D <sub>3</sub> HCl	C <sub>13</sub> H <sub>14</sub> D <sub>3</sub> NO <sub>3</sub> ·HCl M.W. 274.76	<b>P-102-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Pyrovalerone HCl	1147-62-2 C <sub>16</sub> H <sub>23</sub> NO·HCl M.W. 281.82	<b>P-081-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
α-Pyrrolidinobutiophenone HCl (α-PBP HCl)	13415-54-8 C <sub>14</sub> H <sub>19</sub> NO·HCl M.W. 253.77	<b>P-110-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
α-Pyrrolidinopropiophenone HCl (α-PPP HCl)	92040-10-3 C <sub>13</sub> H <sub>17</sub> NO·HCl M.W. 239.74	<b>P-100-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
α-Pyrrolidinovalerophenone HCl (α-PVP HCl)	5485-65-4 C <sub>15</sub> H <sub>21</sub> NO·HCl M.W. 267.79	<b>P-090-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
α-Pyrrolidinovalerophenone-D <sub>8</sub> HCl (α-PVP-D <sub>8</sub> HCl)	C <sub>15</sub> H <sub>13</sub> D <sub>8</sub> NO·HCl M.W. 275.84	<b>P-101-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
TH-PVP HCl	C <sub>19</sub> H <sub>27</sub> NO·HCl M.W. 285.42	<b>T-121-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	



## Certified Reference Materials in Matrix

Cerilliant® Certified Spiking Solutions® and CRMs of endogenous biomarkers in biological matrices such as serum are manufactured and tested using validated processes to ensure the highest level of accuracy for critical quantitative mass spectrometry-based applications. The portfolio spans testing applications from therapeutic drug monitoring, diagnostic testing, clinical chemistry and endocrinology to pharmaceutical research, clinical toxicology, and forensic analysis. All single and multi-analyte matrix solutions are prepared at CRM grade, ensuring high accuracy of concentration with traceability & uncertainty defined at multiple concentration levels covering specific diagnostic ranges. Each individual concentration level is ready to be used as a linearity standard, or for calibration verification in LC-MS/MS testing methods. The pre-prepared, matrix-matched format offers laboratory benefits such as increased efficiency of labor and convenience of use, while avoiding potential preparation errors or errors in dilution during in-house preparation. The matrix-matched format can compensate for potential matrix effects. A blank matrix standard is available as well. Diagnostic testing methods are moving from Immunoassay to LC-MS/MS for greater sensitivity, specificity and better standardization. With manufacturing and testing under quality accreditations such as ISO Guide 17034, ISO/IEC 17025, and ISO 13485, accuracy of concentration can be assured for critical research applications in calibration verification, or verification of linear range within the laboratory's LC-MS/MS testing method.

Product Name	ID	Cat. No.	Size	Structure
Estrogens Blank, USA Sale Only		<b>E-500-3ML</b>	0 pg/mL ( <i>each analyte</i> ) 3 mL Sigmatrix Ultra	
Estrogens CRM in Serum, 10 pg/mL each analyte, USA Sale Only		<b>E-501-3ML</b>	10 pg/mL ( <i>each analyte</i> ) 3 mL Sigmatrix Ultra	
Estrogens CRM in Serum, 20 pg/mL each analyte, USA Sale Only		<b>E-502-3ML</b>	20 pg/mL ( <i>each analyte</i> ) 3 mL Sigmatrix Ultra	
Estrogens CRM in Serum, 100 pg/mL each analyte, USA Sale Only		<b>E-503-1ML</b>	100 pg/mL ( <i>each analyte</i> ) 1 mL Sigmatrix Ultra	
Estrogens CRM in Serum, 500 pg/mL each analyte, USA Sale Only		<b>E-504-1ML</b>	500 pg/mL ( <i>each analyte</i> ) 1 mL Sigmatrix Ultra	
Estrogens CRM in Serum, 1000 pg/mL each analyte, USA Sale Only		<b>E-505-1ML</b>	1000 pg/mL ( <i>each analyte</i> ) 1 mL Sigmatrix Ultra	
Testosterone Serum Blank, USA Sale Only		<b>T-500-1ML</b>	0 ng/dL 1 mL Stripped Serum	
Testosterone CRM in Serum, 4 ng/dL, 1mL, USA Sale Only	58-22-0 C <sub>19</sub> H <sub>28</sub> O <sub>2</sub> M.W. 288.42	<b>T-502-1ML</b>	4 ng/dL 1 mL Stripped Serum	
Testosterone CRM in Serum, 52.5 ng/dL, USA Sale Only	58-22-0 C <sub>19</sub> H <sub>28</sub> O <sub>2</sub> M.W. 288.42	<b>T-506-1ML</b>	52.5 ng/dL 1 mL Stripped Serum	
Testosterone CRM in Serum, 750 ng/dL, USA Sale Only	58-22-0 C <sub>19</sub> H <sub>28</sub> O <sub>2</sub> M.W. 288.42	<b>T-509-1ML</b>	750 ng/dL 1 mL Stripped Serum	
Testosterone CRM in Serum, 2000 ng/dL, USA Sale Only	58-22-0 C <sub>19</sub> H <sub>28</sub> O <sub>2</sub> M.W. 288.42	<b>T-510-1ML</b>	2000 ng/dL 1 mL Stripped Serum	

# ACCESSORIZE YOUR TESTING

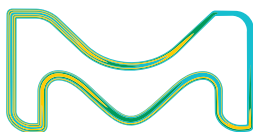
## Collection basics from vials to 96-well format

### Certified Low Adsorption (LA) Vials for HPLC and LC/MS

- Maintains sample integrity during storage
- Minimizes pH shifts in the sample
- Reduces metal contamination in the samples
- Compatible with most autosamplers

### 96-well Collection Plates and Sealing Mats

- Range of well volumes and materials available
- Flat, round and conical bottom formats with various plate depths to accommodate your autosampler
- In addition to MilliporeSigma plate options, choose from Nunc®, Corning® and GreinerBio®



For more information, visit:

[SigmaAldrich.com/vials](https://SigmaAldrich.com/vials)

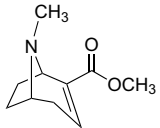
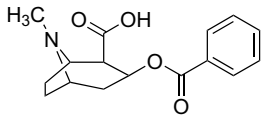
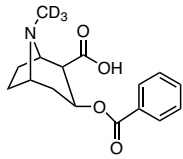
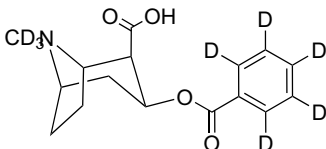
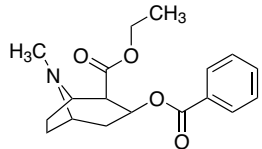
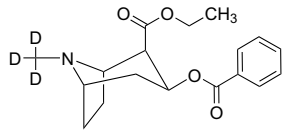
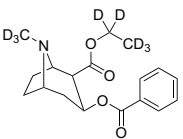
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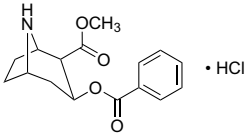
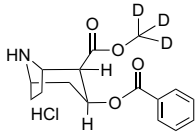
**Supelco®**  
Analytical Products

## Cocaine Analogs

Cocaine is one of the most widespread illicit drugs in the world. Cocaine and its analogs are powerful nervous system stimulants that have been linked with psychological dependence and repeat and impulsive abuse. Historically, GC/MS techniques have been used for the toxicological analysis of cocaine and its metabolites including benzoylecgonine (BE), cocaethylene (CE), ecgonine methylester (EME) and norcocaine (NOR). These metabolites are also reported as impurities in cocaine. Today LC/MS methods are routinely used to quantitate cocaine analogs and their metabolites in biological fluids for applications such as postmortem toxicology, workplace drug testing, forensic analysis, and neonatal meconium screening. Over the past several years, the emergence of more sensitive and specific analytical methods, including those by LC-MS/MS, has allowed identification of novel cocaine metabolites and impurities. These include thermally labile cocaine N-oxide which is a preferred analyte over other biomarkers for cocaine use in hair because it's less affected by external contamination than traditional cocaine metabolites.

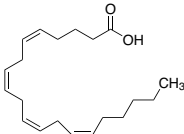
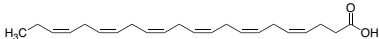
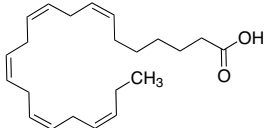
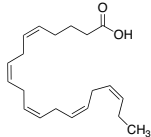
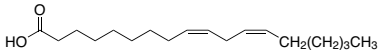
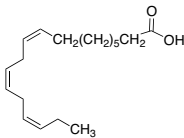
Product Name	ID	Cat. No.	Size	Structure
Anhydroecgonine methyl ester	43021-26-7 C <sub>10</sub> H <sub>15</sub> NO <sub>2</sub> M.W. 181.23	A-034-1ML	1.0 mg/mL 1 mL Acetonitrile	
Benzoylecgonine	519-09-5 C <sub>16</sub> H <sub>19</sub> NO <sub>4</sub> M.W. 289.33	B-007-1ML	100 µg/mL 1 mL Methanol	
	519-09-5 C <sub>16</sub> H <sub>19</sub> NO <sub>4</sub> M.W. 289.33	B-004-1ML	1.0 mg/mL 1 mL Methanol	
Benzoylecgonine-D <sub>3</sub>	115732-68-8 C <sub>16</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 292.34	B-001-1ML	100 µg/mL 1 mL Methanol	
	115732-68-8 C <sub>16</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 292.34	B-008-1ML	1.0 mg/mL 1 mL Methanol	
Benzoylecgonine-D <sub>8</sub>	205446-21-5 C <sub>16</sub> H <sub>11</sub> D <sub>8</sub> NO <sub>4</sub> M.W. 297.38	B-013-1ML	100 µg/mL 1 mL Methanol	
	205446-21-5 C <sub>16</sub> H <sub>11</sub> D <sub>8</sub> NO <sub>4</sub> M.W. 297.38	B-014-1ML	1.0 mg/mL 1 mL Methanol	
Cocaethylene (Benzoyl-ecgonine ethyl ester)	529-38-4 C <sub>18</sub> H <sub>23</sub> NO <sub>4</sub> M.W. 317.38	C-010-1ML	1.0 mg/mL 1 mL Acetonitrile	
Cocaethylene-D <sub>3</sub> (Benzoyl-ecgonine ethyl ester-D <sub>3</sub> )	136765-30-5 C <sub>18</sub> H <sub>20</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 320.40	C-009-1ML	100 µg/mL 1 mL Acetonitrile	
Cocaethylene-D <sub>8</sub> (Benzoyl-ecgonine ethyl ester-D <sub>8</sub> )	152521-09-0 C <sub>18</sub> H <sub>15</sub> D <sub>8</sub> NO <sub>4</sub> M.W. 325.43	C-024-1ML	100 µg/mL 1 mL Acetonitrile	

Product Name	ID	Cat. No.	Size	Structure
Cocaine	50-36-2 C <sub>17</sub> H <sub>21</sub> NO <sub>4</sub> M.W. 303.35	<b>C-008-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Cocaine-D <sub>3</sub>	138704-14-0 C <sub>17</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 306.37	<b>C-004-1ML</b>	100 µg/mL 1 mL Acetonitrile	
	138704-14-0 C <sub>17</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 306.37	<b>C-014-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Ecgonine HCl	5796-31-6 C <sub>9</sub> H <sub>15</sub> NO <sub>3</sub> ·HCl M.W. 221.68	<b>E-004-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Ecgonine ethyl ester	70939-97-8 C <sub>11</sub> H <sub>19</sub> NO <sub>3</sub> M.W. 213.27	<b>E-019-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Ecgonine methyl ester	7143-09-1 C <sub>10</sub> H <sub>17</sub> NO <sub>3</sub> M.W. 199.25	<b>E-008-1ML</b>	100 µg/mL 1 mL Acetonitrile	
	7143-09-1 C <sub>10</sub> H <sub>17</sub> NO <sub>3</sub> M.W. 199.25	<b>E-001-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Ecgonine methyl ester-D <sub>3</sub>	136765-34-9 C <sub>10</sub> H <sub>14</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 202.27	<b>E-002-1ML</b>	100 µg/mL 1 mL Acetonitrile	
m-Hydroxybenzoylecgonine	129944-99-6 C <sub>16</sub> H <sub>19</sub> NO <sub>5</sub> M.W. 305.33	<b>H-017-1ML</b>	1.0 mg/mL 1 mL Methanol	
m-Hydroxycocaine	71387-58-1 C <sub>17</sub> H <sub>21</sub> NO <sub>5</sub> M.W. 319.35	<b>H-119-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
o-Hydroxycocaine	89339-17-3 C <sub>17</sub> H <sub>21</sub> NO <sub>5</sub> M.W. 319.35	<b>H-121-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
p-Hydroxycocaine HCl	197771-77-0 C <sub>17</sub> H <sub>21</sub> NO <sub>5</sub> ·HCl M.W. 355.81	<b>H-135-1ML</b>	1.0 mg/mL (as free base) 1 mL Acetonitrile	

Product Name	ID	Cat. No.	Size	Structure
Norcocaine HCl	61585-22-6 C <sub>16</sub> H <sub>19</sub> NO <sub>4</sub> ·HCl M.W. 325.79	<b>N-003-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Acetonitrile	
Norcocaine-D <sub>3</sub> HCl	C <sub>16</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>4</sub> ·HCl M.W. 328.81	<b>N-034-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Acetonitrile	

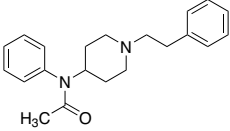
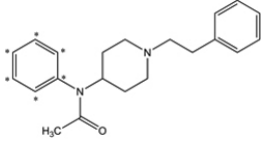
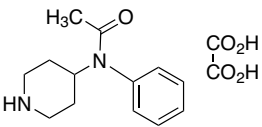
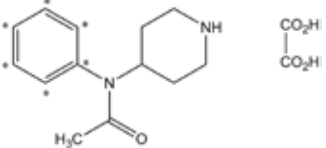
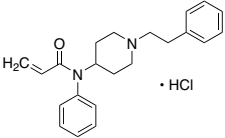
## Fatty Acids

Free fatty acids (FFAs), also called nonesterified fatty acids (NEFA), account for 2% to 5% of all serum fatty acids circulating in blood plasma. Free fatty acids are protein-bound to albumin. Most of the free fatty acids are derived from either dietary sources or are mobilized from adipose tissue. Plasma free fatty acids are elevated in many obesity-related disorders and may contribute to insulin resistance in peripheral tissues. Knowledge of the individual level of FFAs in blood plasma can be helpful in the diagnosis and management of certain diseases and disorders of metabolism such as uncontrolled diabetes mellitus, hyperlipoproteinemia, and secondary hyperlipoproteinemia and conditions such as sepsis and tumors producing lipoinactive hormones.

Product Name	ID	Cat. No.	Size	Structure
Arachidonic acid (cis-5,8,11,14)	506-32-1 C <sub>20</sub> H <sub>32</sub> O <sub>2</sub> M.W. 304.47	<b>A-122-1ML</b>	1.0 mg/mL 1 mL Ethanol	
Docosahexaenoic acid (cis-4,7,10,13,16,19)	6217-54-5 C <sub>22</sub> H <sub>32</sub> O <sub>2</sub> M.W. 328.49	<b>D-117-1ML</b>	500 µg/mL 1 mL Ethanol	
Docosapentaenoic acid (cis-7,10,13,16,19)	24880-45-3 C <sub>22</sub> H <sub>34</sub> O <sub>2</sub> M.W. 330.50	<b>D-120-1ML</b>	500 µg/mL 1 mL Ethanol	
Eicosapentaenoic acid (cis-5,8,11,14,17)	10417-94-4 C <sub>20</sub> H <sub>30</sub> O <sub>2</sub> M.W. 302.45	<b>E-113-1ML</b>	500 µg/mL 1 mL Ethanol	
Linoleic acid	60-33-3 C <sub>18</sub> H <sub>32</sub> O <sub>2</sub> M.W. 280.45	<b>L-040-1ML</b>	2.0 mg/mL 1 mL Ethanol	
α-Linolenic acid	463-40-1 C <sub>18</sub> H <sub>30</sub> O <sub>2</sub> M.W. 278.43	<b>L-039-1ML</b>	1.0 mg/mL 1 mL Ethanol	

# Fentanyl

Fentanyl is a rapid-acting synthetic  $\mu$ -opioid receptor agonist that depresses the central nervous system (CNS) and may alleviate pain without causing loss of consciousness. Therefore, traditional fentanyl analogs such as fentanyl, remifentanyl and sufentanyl are used in pain medication and anesthesia. The emergence of fentanyl analogs as drugs of abuse represents the greatest challenge to current forensic toxicology. Recently, a huge number of new fentanyl structural variants, also known as designer fentanyl analogs, have appeared on the illicit drug market. Often mixed with traditional opioid drugs, these highly potent fentanyl analogs have caused harmful intoxications and dramatically increased opioid-related mortality in the United States, Europe and Asia. Over 90 overdose deaths in the U.S. occur each day due to opioids, particularly from fentanyl and its synthetic analogs. Abuse of opioids and fentanyl analogs has been declared as a national public health emergency in the U.S., leading to stricter governmental regulations on opioid prescription, and new DEA regulations for fentanyl analogs. In the United States, the Drug Enforcement Agency placed the broadly defined class of Fentanyl-Related Substances on the list of Schedule I drugs in 2018, making it illegal to manufacture, distribute, or possess fentanyl analogs. Due to the very high potency of some fentanyl analogs, forensic testing labs performing LC-MS/MS fentanyl testing are facing the challenge of detecting minimal trace amounts of these drugs in biological samples while ensuring laboratory safety. To help address these safety challenges, we provide Certified Spiking Solutions<sup>®</sup> of the most potent fentanyl analogs, such as carfentanyl, in an ampoule additionally protected in a safety can, ensuring safe transport and handling in the lab.

Product Name	ID	Cat. No.	Size	Structure
Acetyl fentanyl	3258-84-2 C <sub>21</sub> H <sub>26</sub> N <sub>2</sub> O M.W. 322.44	<b>A-129-1ML</b>	50 $\mu$ g/mL 1 mL Methanol	
	3258-84-2 C <sub>21</sub> H <sub>26</sub> N <sub>2</sub> O M.W. 322.44	<b>A-109-1ML</b>	1.0 mg/mL 1 mL Methanol	
Acetyl fentanyl- <sup>13</sup> C <sub>6</sub>	C <sub>15</sub> <sup>13</sup> C <sub>6</sub> H <sub>26</sub> N <sub>2</sub> O M.W. 328.40	<b>A-130-1ML</b>	50 $\mu$ g/mL 1 mL Methanol	
	<sup>13</sup> C <sub>6</sub> C <sub>15</sub> H <sub>26</sub> N <sub>2</sub> O M.W. 328.40	<b>A-110-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	
Acetyl norfentanyl oxalate	C <sub>13</sub> H <sub>18</sub> N <sub>2</sub> O·C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> M.W. 308.33	<b>A-115-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Acetyl norfentanyl- <sup>13</sup> C <sub>6</sub> oxalate	C <sub>7</sub> <sup>13</sup> C <sub>6</sub> H <sub>18</sub> N <sub>2</sub> O·C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> M.W. 314.29	<b>A-116-1ML</b>	100 $\mu$ g/mL (as free base) 1 mL Methanol	
Acrylyl fentanyl HCl	79279-03-1 C <sub>22</sub> H <sub>26</sub> N <sub>2</sub> O·HCl M.W. 370.92	<b>A-140-0.5ML</b>	100 $\mu$ g/mL (as free base) 0.5 mL Methanol	

# Opioid CRM Kits for Accurate Fentanyl Testing

Certified Reference Materials (CRMs) for detection of fentanyl-related analogs and other synthetic opioids



The Centers for Disease Control and Prevention (CDC) has developed Opioid Certified Reference Material (CRM) Kits to support laboratory detection of emerging opioids in the US.

Cerilliant®, a MilliporeSigma company, began distributing the Opioid CRM Kit in April, 2019.



## Opioid CRM Kit:

- Includes 1 milligram each of 22 CRMs and their matched carbon-13 and nitrogen-15 isotopes
- Addresses 99.7 percent of DEA fentanyl/fentanyl-related cases in the DEA 2018 Q3 Report
- Improves confirmation of mass spectrometry method analysis

The kits are available free of charge to US laboratories. A requesting lab must have a current DEA registration for Schedule I and II controlled substances and comply with all respective state and local regulations.

Please visit:

[cerilliant.com](https://cerilliant.com)

for instructions on how to request a free Opioid CRM Kit. The CDC will review and approve all requests prior to shipment.

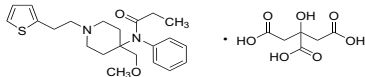
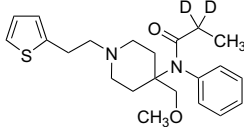
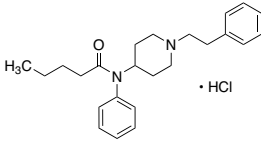
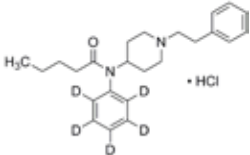
\*Traceable Opioid Material, TOM Kits, and the TOM Kits logo are marks of the U.S. Department of Health and Human Services. The mark 'CDC' is owned by the US Dept. of Health and Human Services and is used with permission. Use of this logo is not an endorsement by HHS or CDC of any particular product, service, or enterprise.



Product Name	ID	Cat. No.	Size	Structure
Acryl fentanyl-D <sub>5</sub> HCl		<b>A-156-0.5ML</b>	100 µg/mL ( <i>as free base</i> ) 0.5 mL Methanol	
Alfentanil HCl	69049-06-5 C <sub>21</sub> H <sub>32</sub> N <sub>6</sub> O <sub>3</sub> ·HCl M.W. 452.98	<b>A-071-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
4-ANPP	21409-26-7 C <sub>19</sub> H <sub>24</sub> N <sub>2</sub> M.W. 280.41	<b>A-139-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
4-ANPP-D <sub>5</sub>	1189466-15-6 C <sub>19</sub> H <sub>19</sub> D <sub>5</sub> N <sub>2</sub> M.W. 285.44	<b>A-157-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
Benzylfentanyl HCl	5156-58-1 C <sub>21</sub> H <sub>26</sub> N <sub>2</sub> O·HCl M.W. 358.90	<b>B-079-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
Benzylfentanyl-D <sub>3</sub> HCl		<b>B-080-0.5ML</b>	100 µg/mL ( <i>as free base</i> ) 0.5 mL Methanol	
Butyryl fentanyl	1169-70-6 C <sub>23</sub> H <sub>30</sub> N <sub>2</sub> O M.W. 350.50	<b>B-066-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
Butyryl fentanyl-D <sub>5</sub>		<b>B-081-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
Carfentanil oxalate	61086-44-0 C <sub>24</sub> H <sub>30</sub> N <sub>2</sub> O <sub>3</sub> ·C <sub>2</sub> H <sub>2</sub> O <sub>4</sub> M.W. 484.54	<b>C-162-1EA</b>	100 µg/mL 0.5 mL Methanol	
Carfentanil-D <sub>5</sub> oxalate		<b>C-163-1EA</b>	100 µg/mL ( <i>as free base</i> ) 0.5 mL Methanol	

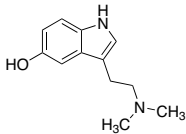
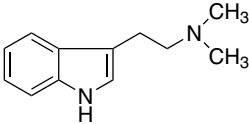
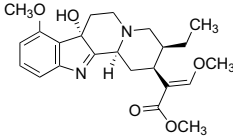
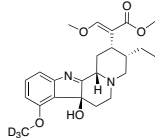
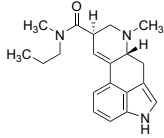
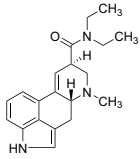
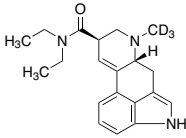
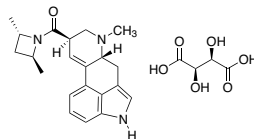
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Cyclopropyl fentanyl HCl	C <sub>23</sub> H <sub>28</sub> N <sub>2</sub> O·HCl M.W. 384.94	<b>C-177-0.5ML</b>	100 µg/mL ( <i>as free base</i> ) 0.5 mL Methanol	
Fentanyl	437-38-7 C <sub>22</sub> H <sub>28</sub> N <sub>2</sub> O M.W. 336.47	<b>F-002-1ML</b>	100 µg/mL 1 mL Methanol	
	437-38-7 C <sub>22</sub> H <sub>28</sub> N <sub>2</sub> O M.W. 336.47	<b>F-013-1ML</b>	1.0 mg/mL 1 mL Methanol	
Fentanyl-D <sub>5</sub>	118357-29-2 C <sub>22</sub> H <sub>23</sub> D <sub>5</sub> N <sub>2</sub> O M.W. 341.50	<b>F-001-1ML</b>	100 µg/mL 1 mL Methanol	
para-Fluorobutyryl fentanyl (PFBF)	244195-31-1 C <sub>23</sub> H <sub>29</sub> FN <sub>2</sub> O M.W. 368.49	<b>F-048-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
ortho-Fluorofentanyl HCl	C <sub>22</sub> H <sub>27</sub> FN <sub>2</sub> O·HCl M.W. 390.92	<b>F-054-0.5ML</b>	100 µg/mL ( <i>as free base</i> ) 0.5 mL Methanol	
para-Fluorofentanyl	90736-23-5 C <sub>22</sub> H <sub>27</sub> FN <sub>2</sub> O M.W. 354.46	<b>F-049-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
para-Fluorofentanyl-D <sub>3</sub>	C <sub>22</sub> H <sub>24</sub> D <sub>3</sub> FN <sub>2</sub> O M.W. 357.48	<b>F-059-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
4-Fluoro-isobutyryl fentanyl	244195-32-2 C <sub>23</sub> H <sub>29</sub> FN <sub>2</sub> O M.W. 368.49	<b>F-050-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
Furanyl fentanyl HCl	101365-56-4 C <sub>24</sub> H <sub>26</sub> N <sub>2</sub> O <sub>2</sub> ·HCl M.W. 410.94	<b>F-046-0.5ML</b>	100µg/mL ( <i>as free base</i> ) 0.5mL Methanol	
Furanyl fentanyl-D <sub>5</sub> HCl	C <sub>24</sub> H <sub>21</sub> D <sub>5</sub> N <sub>2</sub> O <sub>2</sub> ·HCl M.W. 415.97	<b>F-053-0.5ML</b>	100 µg/mL ( <i>as free base</i> ) 0.5 mL Methanol	

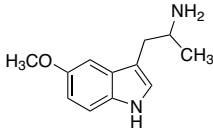
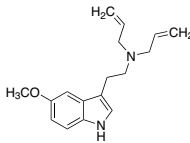
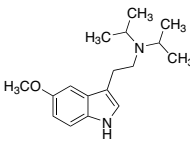
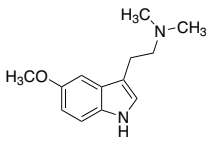
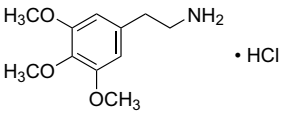
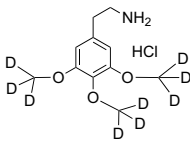
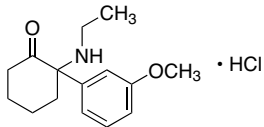
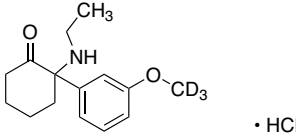
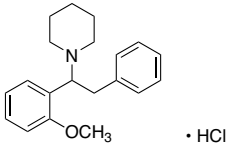
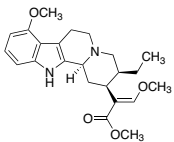
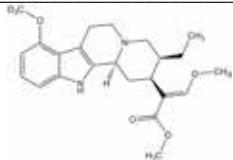
Product Name	ID	Cat. No.	Size	Structure
(±)-β-Hydroxythiofentanyl HCl		<b>H-130-0.5ML</b>	100 µg/mL (as free base) 0.5 mL Methanol	
Isobutyryl fentanyl HCl	117332-90-8	<b>I-038-0.5ML</b>	100 µg/mL (as free base) 0.5 mL Methanol	
Methoxyacetyl fentanyl HCl	101365-54-2	<b>M-200-0.5ML</b>	100 µg/mL (as free base) 0.5 mL Methanol	
(±)-cis-3-Methylfentanyl HCl	78995-18-3	<b>M-194-1EA</b>	100 µg/mL (as free base) 0.5 mL Methanol	
Norcarfentanil oxalate		<b>N-114-1EA</b>	100 µg/mL (as free base) 0.5 mL Methanol	
Norfentanyl oxalate	1211527-24-0	<b>N-031-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Norfentanyl-D <sub>5</sub> oxalate	1435933-84-8	<b>N-030-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
	1435933-84-8	<b>N-055-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Ocfentanil	101343-69-5	<b>O-047-0.5ML</b>	100 µg/mL 0.5 mL Methanol	
Remifentanil acid	132875-68-4	<b>R-026-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Remifentanil HCl	132539-07-2	<b>R-024-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	

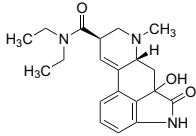
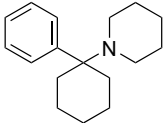
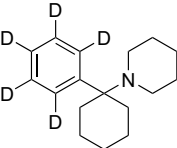
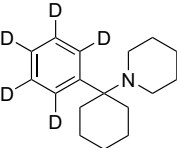
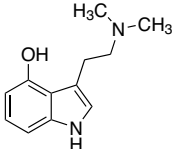
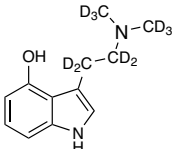
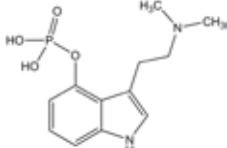
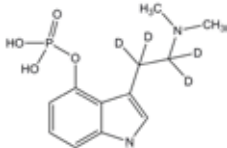
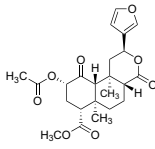
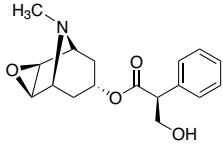
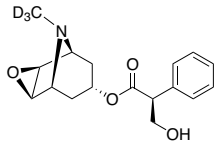
Product Name	ID	Cat. No.	Size	Structure
Sufentanil citrate	60561-17-3	<b>S-008-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Sufentanil-D <sub>5</sub>	56030-54-7	<b>S-018-1ML</b>	100 µg/mL 1 mL Methanol	
Valeryl fentanyl HCl	117332-91-9	<b>V-048-0.5ML</b>	100 µg/mL ( <i>as free base</i> ) 0.5 mL Methanol	
Valeryl fentanyl-D <sub>5</sub> HCl		<b>V-068-0.5ML</b>	100 µg/mL ( <i>as free base</i> ) 0.5 mL Methanol	

## Hallucinogens

Hallucinogens are psychoactive agents that can alter perception, thought, emotion, and consciousness. From plant-based psychoactive substances, phencyclidine (PCP) derivatives, and tryptamines to lysergic acid diethylamide (LSD), hallucinogens - also known as psychedelics - remain popular drugs of abuse widely prevalent around the world. The demand for hallucinogens has expanded as a result of increased availability over the internet and the emergence of new, synthetic hallucinogens which circumvent drug abuse legislation. Psychoactive hallucinogens including Kratom, Salvia divinorum, khat, PCP and its derivatives produce sedating and anesthetizing effects in addition to distorting the sensory perceptions of users. Synthetic substituted tryptamine analogs such as 5-methoxy-DMT, 5-methoxy-DALT, and 5-methoxy-AMT have also become very popular among drug users partly replacing consumption of classical, naturally occurring hallucinogens.

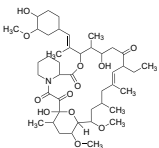
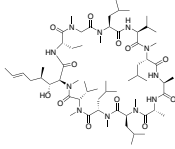
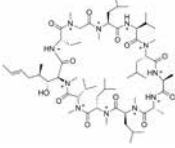
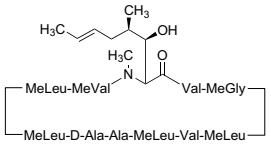
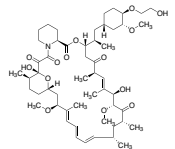
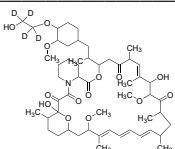
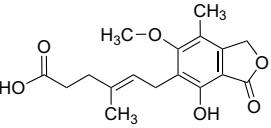
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Bufotenine	487-93-4 C <sub>12</sub> H <sub>16</sub> N <sub>2</sub> O M.W. 204.27	<b>B-022-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
N,N-Dimethyltryptamine (DMT)	61-50-7 C <sub>12</sub> H <sub>16</sub> N <sub>2</sub> M.W. 188.27	<b>D-102-1ML</b>	1.0 mg/mL 1 mL Methanol	
7-Hydroxymitragynine	174418-82-7 C <sub>23</sub> H <sub>30</sub> N <sub>2</sub> O <sub>5</sub> M.W. 414.49	<b>H-099-1ML</b>	100 µg/mL 1 mL 0.1N Ammonia in Methanol	
7-Hydroxymitragynine-D <sub>3</sub>	C <sub>23</sub> H <sub>27</sub> D <sub>3</sub> N <sub>2</sub> O <sub>5</sub> M.W. 417.51	<b>H-109-1ML</b>	100 µg/mL 1 mL 0.1N Ammonia in Methanol	
LAMPA (Lysergic acid N,N-methylpropylamide)	40158-98-3 C <sub>20</sub> H <sub>25</sub> N <sub>3</sub> O M.W. 323.43	<b>L-004-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
LSD (Lysergic acid diethylamide)	50-37-3 C <sub>20</sub> H <sub>25</sub> N <sub>3</sub> O M.W. 323.43	<b>L-005-1ML</b>	25 µg/mL 1 mL Acetonitrile	
	50-37-3 C <sub>20</sub> H <sub>25</sub> N <sub>3</sub> O M.W. 323.43	<b>L-001-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
LSD-D <sub>3</sub> (Lysergic acid diethylamide-D <sub>3</sub> )	136765-38-3 C <sub>20</sub> H <sub>22</sub> D <sub>3</sub> N <sub>3</sub> O M.W. 326.45	<b>L-002-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Lysergic acid 2,4-dimethylazetidide tartrate (LSZ tartrate)	470666-32-1 C <sub>21</sub> H <sub>25</sub> N <sub>3</sub> O·C <sub>4</sub> H <sub>6</sub> O <sub>6</sub> M.W. 485.53	<b>L-043-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1mL Acetonitrile:Water (90:10)	

Product Name	ID	Cat. No.	Size	Structure
5-MeO-AMT	1137-04-8 C <sub>12</sub> H <sub>16</sub> N <sub>2</sub> O M.W. 204.27	M-169-1ML	1.0 mg/mL 1 mL Methanol	
5-MeO-DALT	928822-98-4 C <sub>17</sub> H <sub>22</sub> N <sub>2</sub> O M.W. 270.37	M-165-1ML	1.0 mg/mL 1 mL Acetonitrile	
5-MeO-DIPT	4021-34-5 C <sub>17</sub> H <sub>26</sub> N <sub>2</sub> O M.W. 274.41	M-167-1ML	1.0 mg/mL 1 mL Methanol	
5-MeO-DMT	1019-45-0 C <sub>13</sub> H <sub>18</sub> N <sub>2</sub> O M.W. 218.29	M-168-1ML	1.0 mg/mL 1 mL Methanol	
Mescaline HCl	832-92-8 C <sub>11</sub> H <sub>17</sub> NO <sub>3</sub> ·HCl M.W. 247.72	M-047-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Mescaline-D <sub>9</sub> HCl	C <sub>11</sub> H <sub>8</sub> D <sub>9</sub> NO <sub>3</sub> ·HCl M.W. 256.77	M-051-1ML	100 µg/mL (as free base) 1 mL Methanol	
Methoxetamine HCl	1239908-48-5 C <sub>15</sub> H <sub>21</sub> NO <sub>3</sub> ·HCl M.W. 283.79	M-156-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Methoxetamine-D <sub>3</sub> HCl	C <sub>15</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>3</sub> ·HCl M.W. 286.81	M-187-1ML	100 µg/mL (as free base) 1 mL Methanol	
Methoxphenidine HCl	C <sub>20</sub> H <sub>25</sub> NO·HCl M.W. 331.88	M-192-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Mitragynine	4098-40-2 C <sub>23</sub> H <sub>30</sub> N <sub>2</sub> O <sub>4</sub> M.W. 398.50	M-152-1ML	100 µg/mL 1 mL Methanol	
Mitragynine-D <sub>3</sub>	C <sub>23</sub> H <sub>27</sub> D <sub>3</sub> N <sub>2</sub> O <sub>4</sub> M.W. 401.51	M-182-1ML	100 µg/mL 1 mL Methanol	

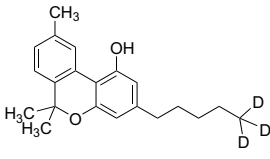
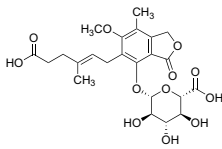
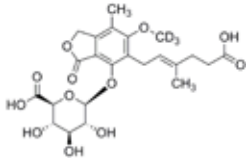
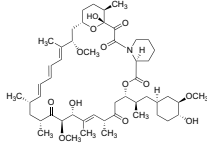
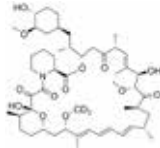
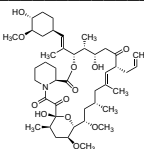
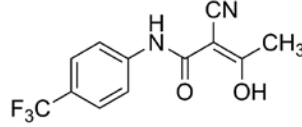
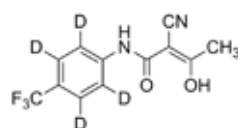
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2-Oxo-3-hydroxy-LSD	111295-09-1 C <sub>20</sub> H <sub>25</sub> N <sub>3</sub> O <sub>3</sub> M.W. 355.43	O-013-1ML	100 µg/mL 1 mL Acetonitrile	
PCP (Phencyclidine)	77-10-1 C <sub>17</sub> H <sub>25</sub> N M.W. 243.39	P-007-1ML	1.0 mg/mL 1 mL Methanol	
PCP-D <sub>5</sub> (Phencyclidine-D <sub>5</sub> )	60124-86-9 C <sub>17</sub> H <sub>20</sub> D <sub>5</sub> N M.W. 248.42	P-003-1ML	100 µg/mL 1 mL Methanol	
	60124-86-9 C <sub>17</sub> H <sub>20</sub> D <sub>5</sub> N M.W. 248.42	P-006-1ML	1.0 mg/mL 1 mL Methanol	
Psilocin	520-53-6 C <sub>12</sub> H <sub>16</sub> N <sub>2</sub> O M.W. 204.27	P-098-1ML	1.0 mg/mL 1 mL Acetonitrile	
Psilocin-D <sub>10</sub>	1435934-64-7 C <sub>12</sub> H <sub>6</sub> D <sub>10</sub> N <sub>2</sub> O M.W. 214.33	P-099-1ML	100 µg/mL 1 mL Acetonitrile	
Psilocybin	520-52-5 C <sub>12</sub> H <sub>17</sub> N <sub>2</sub> O <sub>4</sub> P M.W. 284.25	P-097-1ML	1.0 mg/mL 1 mL 1:1 Acetonitrile:Water	
Psilocybin-D <sub>4</sub>	1246819-43-1 C <sub>12</sub> H <sub>13</sub> D <sub>4</sub> N <sub>2</sub> O <sub>4</sub> P M.W. 288.27	P-113-1ML	100 µg/mL 1 mL 1:1 Acetonitrile:Water	
Salvinorin A	83729-01-5 C <sub>23</sub> H <sub>28</sub> O <sub>8</sub> M.W. 432.46	S-012-1ML	1.0 mg/mL 1 mL Acetonitrile	
(-)-Scopolamine HBr	114-49-8 C <sub>17</sub> H <sub>21</sub> NO <sub>4</sub> ·HBr M.W. 384.26	S-098-1ML	1.0 mg/mL (as free base) 1mL Acetonitrile:Water (90:10)	
(-)-Scopolamine-D <sub>3</sub> HCl	1202357-61-6 C <sub>17</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>4</sub> ·HCl M.W. 342.83	S-099-1ML	100 µg/mL (as free base) 1mL Acetonitrile:Water (90:10)	

## Immunosuppressants

Immunosuppressants or immunosuppressive drugs inhibit or prevent activity of the immune system. Worldwide, the number of organ transplants performed each year continues to increase. Immunosuppressants assist in the long-term survival rates of organ transplant patients by modifying the immune response to minimize rejection of transplanted organs. Clinical testing laboratories play a critical role in supporting long-term survival rates through therapeutic drug monitoring (TDM) of immunosuppressants. TDM assists the physician in maintaining the delicate balance between toxicity and therapeutic levels of immunosuppressant dosing necessary to prevent organ rejection in patients. Many clinical laboratories have adopted LC-MS/MS technology for the quantitation of immunosuppressant levels in patient biological samples due to its improved sensitivity and specificity over immunoassay (IA) techniques. LC-MS/MS immunosuppressant methods offer an additional benefit of eliminating issues with cross reactivity of immunosuppressant metabolites that is common among IA methods.

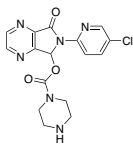
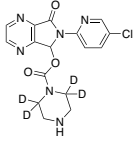
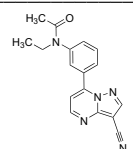
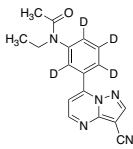
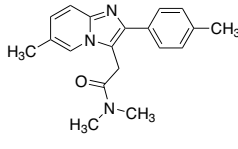
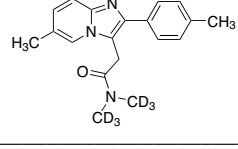
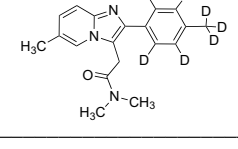
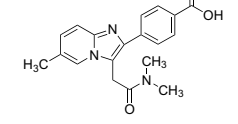
Product Name	ID	Cat. No.	Size	Structure
Ascomycin	104987-12-4 C <sub>43</sub> H <sub>69</sub> NO <sub>12</sub> M.W. 792.01	A-094-1ML	1.0 mg/mL 1 mL Acetonitrile	
Cyclosporin A	59865-13-3 C <sub>62</sub> H <sub>111</sub> N <sub>11</sub> O <sub>12</sub> M.W. 1202.61	C-104-1ML	100 µg/mL 1 mL Acetonitrile	
	59865-13-3 C <sub>62</sub> H <sub>111</sub> N <sub>11</sub> O <sub>12</sub> M.W. 1202.61	C-093-1ML	1.0 mg/mL 1 mL Acetonitrile	
Cyclosporin A- <sup>15</sup> N <sub>11</sub>	C <sub>62</sub> H <sub>111</sub> <sup>15</sup> N <sub>11</sub> O <sub>12</sub> M.W. 1213.56	C-139-1ML	100 µg/mL 1 mL Acetonitrile	
Cyclosporin D	63775-96-2 C <sub>63</sub> H <sub>113</sub> N <sub>11</sub> O <sub>12</sub> M.W. 1216.64	C-108-1ML	1.0 mg/mL 1 mL Acetonitrile	
Everolimus	159351-69-6 C <sub>53</sub> H <sub>83</sub> NO <sub>14</sub> M.W. 958.22	E-068-1ML	1.0 mg/mL 1 mL Acetonitrile	
Everolimus-D <sub>4</sub>	C <sub>53</sub> H <sub>79</sub> D <sub>4</sub> NO <sub>14</sub> M.W. 962.25	E-070-1ML	100 µg/mL 1 mL Acetonitrile	
Mycophenolic acid	24280-93-1 C <sub>17</sub> H <sub>20</sub> O <sub>6</sub> M.W. 320.34	M-106-1ML	1.0 mg/mL 1 mL Acetonitrile	



Product Name	ID	Cat. No.	Size	Structure
Mycophenolic acid-D <sub>3</sub>	1185242-90-3	<b>M-137-1ML</b>	100 µg/mL 1 mL Acetonitrile	
	1185242-90-3	<b>M-180-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Mycophenolic acid-β-D-glucuronide	31528-44-6	<b>M-135-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Mycophenolic acid-D <sub>3</sub> -β-D-glucuronide	C <sub>23</sub> H <sub>25</sub> D <sub>3</sub> O <sub>12</sub> M.W. 499.48	<b>M-204-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Sirolimus (Rapamycin)	53123-88-9 C <sub>51</sub> H <sub>79</sub> NO <sub>13</sub> M.W. 914.17	<b>S-015-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Sirolimus-D <sub>3</sub>	392711-19-2 C <sub>51</sub> H <sub>76</sub> D <sub>3</sub> NO <sub>13</sub> M.W. 917.19	<b>S-023-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Tacrolimus	104987-11-3 C <sub>44</sub> H <sub>69</sub> NO <sub>12</sub> M.W. 804.02	<b>T-049-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Teriflunomide	163451-81- C <sub>12</sub> H <sub>9</sub> F <sub>3</sub> N <sub>2</sub> O <sub>2</sub> M.W. 270.21	<b>T-122-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Teriflunomide-D <sub>4</sub>	1185240-22-5 C <sub>12</sub> H <sub>5</sub> D <sub>4</sub> F <sub>3</sub> N <sub>2</sub> O <sub>2</sub> M.W. 274.23	<b>T-123-1ML</b>	100 µg/mL 1 mL Acetonitrile	

## Nonbenzodiazepines

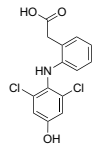
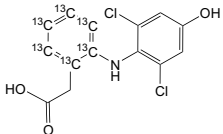
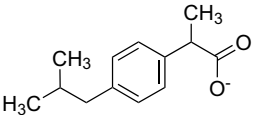
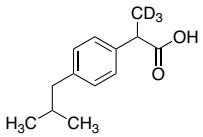
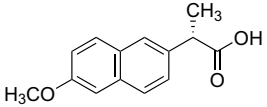
Nonbenzodiazepines, commonly referred to as Z-drugs, represent a widely prescribed class of psychoactive drugs used in the treatment of insomnia. Characterized by rapid onset, these drugs can induce intense sedation, feelings of euphoria, and hallucinations. Use of nonbenzodiazepines, including zolpidem, zopiclone, and zaleplon, can produce side effects such as short-term memory loss, sleepwalking, and sleep driving. Due to involvement in drug facilitated crime, nonbenzodiazepines are analyzed in forensic and clinical toxicology settings. Chromatographic and mass spectrometry-based methods from HPLC to GC/MS, LC/MS, and LC-MS/MS are typically used in screening and confirmatory applications involving nonbenzodiazepines. Analytical methods have been developed that quantify nonbenzodiazepines in whole blood, plasma, and hair for applications ranging from forensic analysis and clinical toxicology to workplace drug testing.

Product Name	ID	Cat. No.	Size	Structure
N-Desmethylzopiclone	59878-63-6 C <sub>16</sub> H <sub>15</sub> ClN <sub>6</sub> O <sub>3</sub> M.W. 374.78	D-111-1ML	100 µg/mL 1 mL Acetonitrile	
N-Desmethylzopiclone-D <sub>4</sub>	C <sub>16</sub> H <sub>11</sub> D <sub>4</sub> ClN <sub>6</sub> O <sub>3</sub> M.W. 378.81	D-112-1ML	100 µg/mL 1 mL Acetonitrile	
Zaleplon	151319-34-5 C <sub>17</sub> H <sub>15</sub> N <sub>5</sub> O M.W. 305.33	Z-004-1ML	1.0 mg/mL 1 mL Methanol	
Zaleplon-D <sub>4</sub>	1781887-91-9 C <sub>17</sub> H <sub>11</sub> D <sub>4</sub> N <sub>5</sub> O M.W. 309.36	Z-010-1ML	100 µg/mL 1 mL Methanol	
Zolpidem	82626-48-0 C <sub>19</sub> H <sub>21</sub> N <sub>3</sub> O M.W. 307.39	Z-017-1ML	1.0 mg/mL 1 mL Methanol	
Zolpidem-D <sub>6</sub> (Not suitable for use with GC/MS)	959605-90-4 C <sub>19</sub> H <sub>15</sub> D <sub>6</sub> N <sub>3</sub> O M.W. 313.43	Z-001-1ML	100 µg/mL 1 mL Methanol	
Zolpidem-D <sub>7</sub> (Suitable for use with GC/MS or LC/MS)	C <sub>19</sub> H <sub>14</sub> D <sub>7</sub> N <sub>3</sub> O M.W. 314.43	Z-008-1ML	100 µg/mL 1 mL Methanol	
Zolpidem phenyl-4-carboxylic acid	109461-65-6 C <sub>19</sub> H <sub>19</sub> N <sub>3</sub> O <sub>3</sub> M.W. 337.37	Z-007-1ML	500 µg/mL 1 mL 1:1 Acetonitrile:Water	

Product Name	ID	Cat. No.	Size	Structure
Zolpidem phenyl-4-carboxylic acid-D <sub>4</sub>	C <sub>19</sub> H <sub>15</sub> D <sub>4</sub> N <sub>3</sub> O <sub>3</sub> M.W. 341.40	Z-012-1ML	100 µg/mL 1 mL 1:1 Acetonitrile:Water	
Zopiclone	43200-80-2 C <sub>17</sub> H <sub>17</sub> ClN <sub>6</sub> O <sub>3</sub> M.W. 388.81	Z-003-1ML	1.0 mg/mL 1 mL Acetonitrile	
Zopiclone-D <sub>4</sub>	1435933-78-0 C <sub>17</sub> H <sub>13</sub> D <sub>4</sub> ClN <sub>6</sub> O <sub>3</sub> M.W. 392.83	Z-902-1ML	100 µg/mL 1 mL Acetonitrile	
Zopiclone-N-oxide	43200-96-0 C <sub>17</sub> H <sub>17</sub> ClN <sub>6</sub> O <sub>4</sub> M.W. 404.81	Z-013-1ML	100 µg/mL 1 mL Methanol with 1% 1M HCl	
Zopiclone-N-oxide-D <sub>4</sub>	C <sub>17</sub> H <sub>13</sub> D <sub>4</sub> ClN <sub>6</sub> O <sub>4</sub> M.W. 408.83	Z-014-1ML	100 µg/mL 1 mL Methanol with 1% 1M HCl	

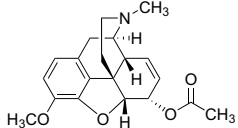
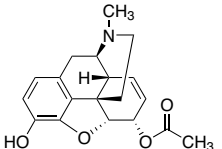
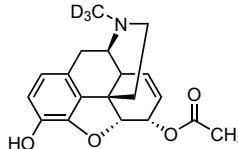
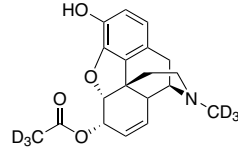
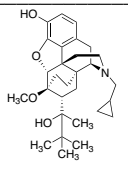
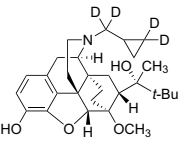
## NSAIDs

Non-steroidal anti-inflammatory drugs (NSAIDs) are a class of pharmaceuticals used in both human and veterinary medicine to treat acute and chronic pain, inflammation, and fever. NSAIDs exert their effects through inhibition of cyclooxygenase (COX), an enzyme that catalyzes the production of prostacyclins or compounds key to the inflammation response. Acute and chronic use of NSAIDs are associated with adverse side effects including gastrointestinal, liver, and renal damage as well as cardiovascular complications. Immunoassays are available for some NSAID medications including acetylsalicylic acid and acetaminophen. For NSAIDs like naproxen, ibuprofen, and indomethacin, immunoassay availability is limited or nonexistent, which is why clinical and forensic analysis of these drugs are typically performed using mass spectrometry-based methods. NSAIDs such as ibuprofen have also been detected as adulterants in food and dietary supplements, and are analyzed by regulatory agencies and quality control laboratories to ensure product quality and potency.

Product Name	ID	Cat. No.	Size	Structure
4'-Hydroxydiclofenac	64118-84-9 C <sub>14</sub> H <sub>11</sub> Cl <sub>2</sub> NO <sub>3</sub> M.W. 312.15	<b>H-052-1ML</b>	100 µg/mL 1 mL Acetonitrile	
4'-Hydroxydiclofenac- <sup>13</sup> C <sub>6</sub>	1189656-64-1 <sup>13</sup> C <sub>6</sub> H <sub>8</sub> H <sub>11</sub> NO <sub>3</sub> Cl <sub>2</sub> M.W. 318.10	<b>H-053-1ML</b>	100 µg/mL 1 mL Methanol	
Ibuprofen	15687-27-1 C <sub>13</sub> H <sub>18</sub> O <sub>2</sub> M.W. 206.28	<b>I-009-1ML</b>	1.0 mg/mL 1 mL Methanol	
Ibuprofen-D <sub>3</sub>	121662-14-4 C <sub>13</sub> H <sub>15</sub> D <sub>3</sub> O <sub>2</sub> M.W. 209.30	<b>I-032-1ML</b>	100 µg/mL 1 mL Methanol	
Naproxen	22204-53-1 C <sub>14</sub> H <sub>14</sub> O <sub>3</sub> M.W. 230.26	<b>N-042-1ML</b>	1.0 mg/mL 1 mL Methanol	

# Opiates

Opiates are naturally occurring alkaloids typically prescribed for the treatment of acute and chronic pain. These drugs have a high addiction potential, are widely available, and potentially lethal when not taken as prescribed. The use of opioids such as hydrocodone, oxycodone and others has been increasing since the late-90s due to over-prescription and their high potential for dependence. The worldwide use and misuse of opiates continues to increase dramatically, and according to the Center for Disease Control and Prevention (CDC) opioid misuse and the emergence of highly potent fentanyl analogues is causing the highest overdose death rates ever recorded in the United States. Stricter regulations, particularly in the US, have increased the need for opioid testing. Opiate analysis has historically been performed using GC/MS, where a typical workflow includes acid or enzyme hydrolysis of opiate glucuronides and derivatization prior to analysis. Today clinical and forensic toxicology labs have been adopting LC-MS/MS over GC/MS for the analysis of opiates due to the technique's increased sensitivity, higher specificity, and reduced time spent on sample preparation.

Product Name	ID	Cat. No.	Size	Structure
6-Acetylcodeine	6703-27-1 C <sub>20</sub> H <sub>23</sub> NO <sub>4</sub> M.W. 341.40	A-053-1ML	1.0 mg/mL 1 mL Acetonitrile	
6-Acetylmorphine	2784-73-8 C <sub>19</sub> H <sub>21</sub> NO <sub>4</sub> M.W. 327.37	A-003-1ML	100 µg/mL 1 mL Acetonitrile	
	2784-73-8 C <sub>19</sub> H <sub>21</sub> NO <sub>4</sub> M.W. 327.37	A-009-1ML	1.0 mg/mL 1 mL Acetonitrile	
6-Acetylmorphine-D <sub>3</sub>	136765-25-8 C <sub>19</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 330.39	A-006-1ML	100 µg/mL 1 mL Acetonitrile	
	136765-25-8 C <sub>19</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 330.39	A-010-1ML	1.0 mg/mL 1 mL Acetonitrile	
6-Acetylmorphine-D <sub>6</sub>	152477-90-2 C <sub>19</sub> H <sub>15</sub> D <sub>6</sub> NO <sub>4</sub> M.W. 333.41	A-026-1ML	100 µg/mL 1 mL Acetonitrile	
	152477-90-2 C <sub>19</sub> H <sub>15</sub> D <sub>6</sub> NO <sub>4</sub> M.W. 333.41	A-027-1ML	1.0 mg/mL 1 mL Acetonitrile	
Buprenorphine	52485-79-7 C <sub>29</sub> H <sub>41</sub> NO <sub>4</sub> M.W. 467.64	B-902-1ML	100 µg/mL 1 mL Methanol	
	52485-79-7 C <sub>29</sub> H <sub>41</sub> NO <sub>4</sub> M.W. 467.64	B-044-1ML	1.0 mg/mL 1 mL Methanol	
Buprenorphine-D <sub>4</sub>	136781-89-0 C <sub>29</sub> H <sub>37</sub> D <sub>4</sub> NO <sub>4</sub> M.W. 471.66	B-901-1ML	100 µg/mL 1 mL Methanol	
	136781-89-0 C <sub>29</sub> H <sub>37</sub> D <sub>4</sub> NO <sub>4</sub> M.W. 471.66	B-908-1ML	1.0 mg/mL 1 mL Methanol	

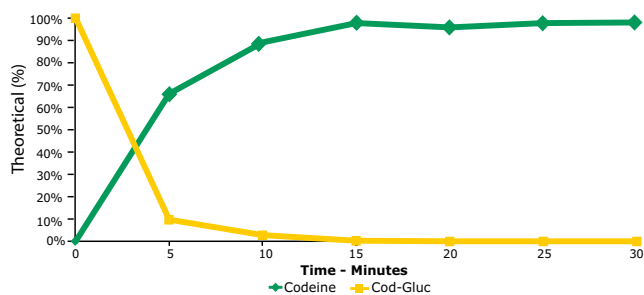
# Ultra-fast hydrolysis in 15 minutes



## Increased Efficiency

- High activity allows for 15 min hydrolysis
- Eliminate 6-MAM to Morphine conversion
- >90% hydrolysis of codeine-6-β-D-glucuronide

Codeine-Glucuronide Conversion Time-Course



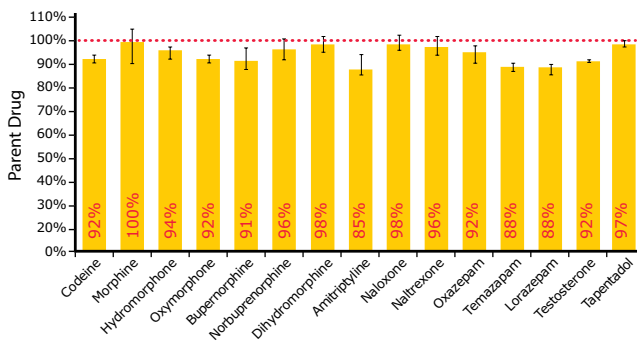
Urine spiked at 1000 ng/mL glucuronide (nominal)  
Enzyme used as supplied (pH 5.0)  
70°C hydrolysis temperature



## Comprehensive Hydrolysis

- Broad efficacy across substrates

Hydrolysis - Parent Drug Percent Recovery  
15 minutes @ 70 °C



## Phosphate-Free Buffer

The first recombinant β-Glucuronidase enzyme formulated without use of phosphate buffer

- Recommended acetate buffer is compatible downstream



## High Stability

- 2-year shelf life with 2-8°C storage
- A representative sample of this product retained 92% activity after storage at 45°C for 28 days

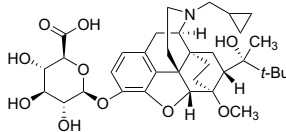
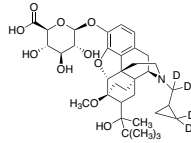
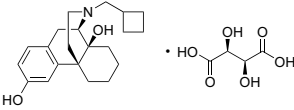
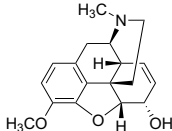
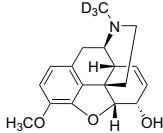
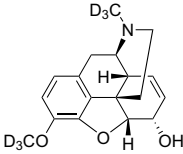
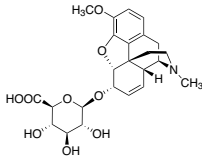
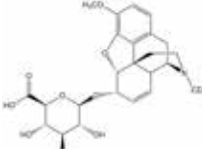
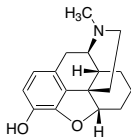


**Enzyme is ISO 9001  
compliant and  
manufactured at  
GMP Sites**

Cat. No.	Product Description
<b>SRE0093</b>	β-Glucuronidase, Recombinant from limpets (Patella vulgata) ▼ Sigma-Aldrich
<b>SRE0095</b>	FAST β-Glucuronidase, Recombinant from limpets (Patella vulgata) ▼ Sigma-Aldrich

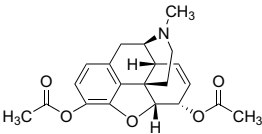
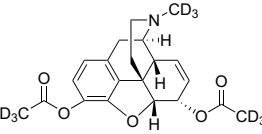
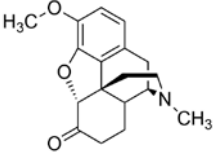
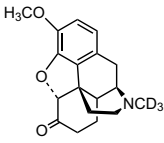
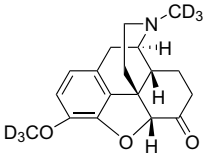
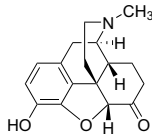
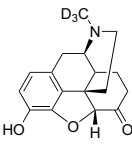
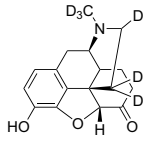
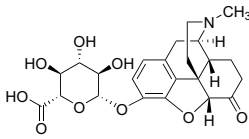
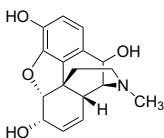
For more information on our recombinant enzymes, visit:  
**SigmaAldrich.com/betagluc**

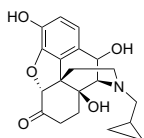
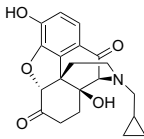
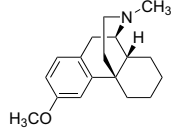
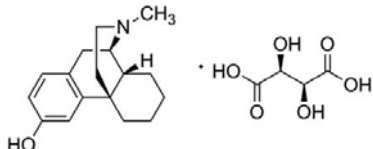
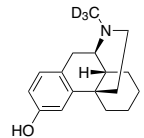
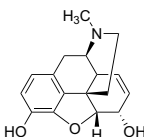
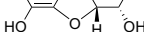
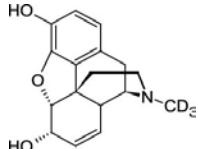
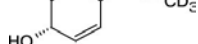
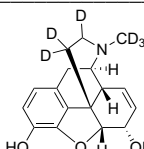
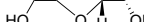
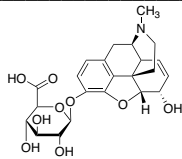
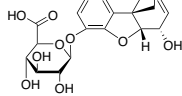
**Sigma-Aldrich®**  
Lab & Production Materials

Product Name	ID	Cat. No.	Size	Structure
Buprenorphine-3β-D-glucuronide	101224-22-0 C <sub>35</sub> H <sub>49</sub> NO <sub>10</sub> M.W. 643.76	<b>B-035-1ML</b>	100 µg/mL 1 mL Methanol	
Buprenorphine-D <sub>4</sub> -3β-D-glucuronide	C <sub>35</sub> H <sub>45</sub> D <sub>4</sub> NO <sub>10</sub> M.W. 647.79	<b>B-060-1ML</b>	100 µg/mL 1 mL Methanol	
Butorphanol tartrate	58786-99-5 C <sub>21</sub> H <sub>29</sub> NO <sub>2</sub> ·C <sub>4</sub> H <sub>6</sub> O <sub>6</sub> M.W. 477.55	<b>B-037-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Codeine	76-57-3 C <sub>18</sub> H <sub>21</sub> NO <sub>3</sub> M.W. 299.36	<b>C-015-1ML</b>	100 µg/mL 1 mL Methanol	
	76-57-3 C <sub>18</sub> H <sub>21</sub> NO <sub>3</sub> M.W. 299.36	<b>C-006-1ML</b>	1.0 mg/mL 1 mL Methanol	
Codeine-D <sub>3</sub>	70420-71-2 C <sub>18</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 302.35	<b>C-005-1ML</b>	100 µg/mL 1 mL Methanol	
	70420-71-2 C <sub>18</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 302.38	<b>C-007-1ML</b>	1.0 mg/mL 1 mL Methanol	
Codeine-D <sub>6</sub>	1007844-34-9 C <sub>18</sub> H <sub>15</sub> D <sub>6</sub> NO <sub>3</sub> M.W. 305.40	<b>C-040-1ML</b>	100 µg/mL 1 mL Methanol	
	1007844-34-9 C <sub>18</sub> H <sub>15</sub> D <sub>6</sub> NO <sub>3</sub> M.W. 305.40	<b>C-041-1ML</b>	1.0 mg/mL 1 mL Methanol	
Codeine-6β-D-glucuronide	20736-11-2 C <sub>24</sub> H <sub>29</sub> NO <sub>9</sub> M.W. 475.49	<b>C-087-1ML</b>	100 µg/mL 1 mL Water: Methanol (80:20)	
	20736-11-2 C <sub>24</sub> H <sub>29</sub> NO <sub>9</sub> M.W. 475.49	<b>C-126-1ML</b>	1.0 mg/mL 1 mL Water: Methanol (80:20)	
Codeine-6β-D-glucuronide-D <sub>3</sub>	219533-59-2 C <sub>24</sub> H <sub>26</sub> D <sub>3</sub> NO <sub>9</sub> M.W. 478.51	<b>C-138-1ML</b>	100 µg/mL 1 mL Water: Methanol (80:20)	
Desomorphine	427-00-9 C <sub>17</sub> H <sub>21</sub> NO <sub>2</sub> M.W. 271.35	<b>D-083-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	

Product Name	ID	Cat. No.	Size	Structure
Desomorphine-D <sub>3</sub>	1354573-64-0 C <sub>17</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>2</sub> M.W. 274.37	<b>D-103-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Dextromethorphan	125-71-3 C <sub>18</sub> H <sub>25</sub> NO M.W. 271.40	<b>D-013-1ML</b>	1.0 mg/mL 1 mL Methanol	
Dextromethorphan-D <sub>3</sub>	524713-56-2 C <sub>18</sub> H <sub>22</sub> D <sub>3</sub> NO M.W. 274.42	<b>D-071-1ML</b>	100 µg/mL 1 mL Methanol	
Dextrorphan tartrate	143-98-6 C <sub>17</sub> H <sub>23</sub> NO·C <sub>4</sub> H <sub>6</sub> O <sub>6</sub> M.W. 407.46	<b>D-034-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Dextrorphan-D <sub>3</sub>	524713-57-3 C <sub>17</sub> H <sub>20</sub> D <sub>3</sub> NO M.W. 260.39	<b>D-041-1ML</b>	100 µg/mL 1 mL Methanol	
Dihydrocodeine HCl	36418-29-8 C <sub>18</sub> H <sub>23</sub> NO <sub>3</sub> ·HCl M.W. 337.84	<b>D-019-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Dihydrocodeine-D <sub>6</sub> HCl	C <sub>18</sub> H <sub>17</sub> D <sub>6</sub> NO <sub>3</sub> ·HCl M.W. 343.88	<b>D-021-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
	C <sub>18</sub> H <sub>17</sub> D <sub>6</sub> NO <sub>3</sub> ·HCl M.W. 343.88	<b>D-087-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Dihydrocodeine-6β-D-glucuronide	88480-40-4 C <sub>24</sub> H <sub>31</sub> NO <sub>9</sub> M.W. 477.50	<b>D-109-1ML</b>	1.0 mg/mL 1 mL 1:1 Methanol:Water	
Dihydromorphone	509-60-4 C <sub>17</sub> H <sub>21</sub> NO <sub>3</sub> M.W. 287.35	<b>D-033-1ML</b>	1.0 mg/mL 1 mL Methanol	
Ethylmorphine	76-58-4 C <sub>19</sub> H <sub>23</sub> NO <sub>3</sub> M.W. 313.39	<b>E-052-1ML</b>	1.0 mg/mL 1 mL Methanol	



Product Name	ID	Cat. No.	Size	Structure
Heroin	561-27-3 C <sub>21</sub> H <sub>29</sub> NO <sub>5</sub> M.W. 369.41	H-038-1ML	1.0 mg/mL 1 mL Acetonitrile	
Heroin-D <sub>9</sub>	1338713-49-7 C <sub>21</sub> H <sub>14</sub> D <sub>9</sub> NO <sub>5</sub> M.W. 378.47	H-036-1ML	100 µg/mL 1 mL Acetonitrile	
	1338713-49-7 C <sub>21</sub> H <sub>14</sub> D <sub>9</sub> NO <sub>5</sub> M.W. 378.47	H-037-1ML	1.0 mg/mL 1 mL Acetonitrile	
Hydrocodone	125-29-1 C <sub>18</sub> H <sub>21</sub> NO <sub>3</sub> M.W. 299.36	H-003-1ML	1.0 mg/mL 1 mL Methanol	
Hydrocodone-D <sub>3</sub>	136765-36-1 C <sub>18</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 302.38	H-005-1ML	100 µg/mL 1 mL Methanol	
	136765-36-1 C <sub>18</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 302.38	H-008-1ML	1.0 mg/mL 1 mL Methanol	
Hydrocodone-D <sub>6</sub>	1007844-38-3 C <sub>18</sub> H <sub>15</sub> D <sub>6</sub> NO <sub>3</sub> M.W. 305.40	H-047-1ML	100 µg/mL 1 mL Methanol	
	1007844-38-3 C <sub>18</sub> H <sub>15</sub> D <sub>6</sub> NO <sub>3</sub> M.W. 305.40	H-048-1ML	1.0 mg/mL 1 mL Methanol	
Hydromorphone	466-99-9 C <sub>17</sub> H <sub>19</sub> NO <sub>3</sub> M.W. 285.34	H-004-1ML	1.0 mg/mL 1 mL Methanol	
Hydromorphone-D <sub>3</sub>	136765-37-2 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 288.32	H-006-1ML	100 µg/mL 1 mL Methanol	
	136765-37-2 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 288.36	H-010-1ML	1.0 mg/mL 1 mL Methanol	
Hydromorphone-D <sub>6</sub>	1024922-02-8 C <sub>17</sub> H <sub>13</sub> D <sub>6</sub> NO <sub>3</sub> M.W. 291.37	H-049-1ML	100 µg/mL 1 mL Methanol	
	1024922-02-8 C <sub>17</sub> H <sub>13</sub> D <sub>6</sub> NO <sub>3</sub> M.W. 291.37	H-050-1ML	1.0 mg/mL 1 mL Methanol	
Hydromorphone-3β-D-glucuronide	40505-76-8 C <sub>23</sub> H <sub>27</sub> NO <sub>9</sub> M.W. 461.46	H-051-1ML	100 µg/mL 1 mL Methanol:Water (50:50)	
10-Hydroxymorphone	131563-73-0 C <sub>17</sub> H <sub>19</sub> NO <sub>4</sub> M.W. 301.34	IMPM-005-05-1ML	100 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
10-Hydroxynaltrexone	604767-82-0 C <sub>20</sub> H <sub>23</sub> NO <sub>5</sub> M.W. 357.41	IMPN-007-02-1ML	100 µg/mL 1 mL Methanol	
10-Ketonaltrexone	96445-14-6 C <sub>20</sub> H <sub>21</sub> NO <sub>5</sub> M.W. 355.38	IMPN-007-03-1ML	100 µg/mL 1 mL Methanol	
Levomethorphan	125-70-2 C <sub>18</sub> H <sub>25</sub> NO M.W. 271.40	L-010-10MG	10 mg	
Levorphanol tartrate	5985-38-6 C <sub>17</sub> H <sub>23</sub> NO·C <sub>4</sub> H <sub>6</sub> O <sub>6</sub> M.W. 407.46	L-044-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Levorphanol-D <sub>3</sub>	53447-08-8 C <sub>17</sub> H <sub>20</sub> D <sub>3</sub> NO M.W. 260.39	L-034-1ML	100 µg/mL 1 mL Methanol	
Morphine	57-27-2 C <sub>17</sub> H <sub>19</sub> NO <sub>3</sub> M.W. 285.34	M-030-1ML	100 µg/mL 1 mL Methanol	
	57-27-2 C <sub>17</sub> H <sub>19</sub> NO <sub>3</sub> M.W. 285.34	M-005-1ML	1.0 mg/mL 1 mL Methanol	
Morphine-D <sub>3</sub>	67293-88-3 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 288.36	M-003-1ML	100 µg/mL 1 mL Methanol	
	67293-88-3 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 288.36	M-006-1ML	1.0 mg/mL 1 mL Methanol	
Morphine-D <sub>6</sub>	1334606-17-5 C <sub>17</sub> H <sub>13</sub> D <sub>6</sub> NO <sub>3</sub> M.W. 291.37	M-085-1ML	100 µg/mL 1 mL Methanol	
	1334606-17-5 C <sub>17</sub> H <sub>13</sub> D <sub>6</sub> NO <sub>3</sub> M.W. 291.37	M-086-1ML	1.0 mg/mL 1 mL Methanol	
Morphine-3β-D-glucuronide	20290-09-9 C <sub>23</sub> H <sub>27</sub> NO <sub>9</sub> M.W. 461.46	M-018-1ML	100 µg/mL 1 mL Methanol:Water (1:1)	
	20290-09-9 C <sub>23</sub> H <sub>27</sub> NO <sub>9</sub> M.W. 461.46	M-031-1ML	1.0 mg/mL 1 mL Methanol with 0.05% NaOH	

Product Name	ID	Cat. No.	Size	Structure
Morphine-3 $\beta$ -D-glucuronide-D <sub>3</sub>	136765-44-1 C <sub>23</sub> H <sub>24</sub> D <sub>3</sub> NO <sub>9</sub> M.W. 464.48	<b>M-017-1ML</b>	100 $\mu$ g/mL 1 mL Methanol w/0.05% NaOH	
Morphine-6 $\beta$ -D-glucuronide	20290-10-2 C <sub>23</sub> H <sub>27</sub> NO <sub>9</sub> M.W. 461.46	<b>M-096-1ML</b>	100 $\mu$ g/mL 1 mL Methanol:Water (1:1)	
	20290-10-2 C <sub>23</sub> H <sub>27</sub> NO <sub>9</sub> M.W. 461.46	<b>M-046-1ML</b>	1.0 mg/mL 1 mL Water:Methanol (80:20)	
Morphine-6 $\beta$ -D-glucuronide-D <sub>3</sub>	219533-69-4 C <sub>23</sub> H <sub>24</sub> D <sub>3</sub> NO <sub>9</sub> M.W. 464.48	<b>M-120-1ML</b>	100 $\mu$ g/mL 1 mL Methanol:Water (50:50)	
Morphine-N-Oxide	639-46-3 C <sub>17</sub> H <sub>19</sub> NO <sub>4</sub> M.W. 301.34	<b>IMPM-005-01-1ML</b>	100 $\mu$ g/mL 1 mL Methanol	

## Ascentis® Express UHPLC and HPLC Columns

Designed to deliver speed and resolution

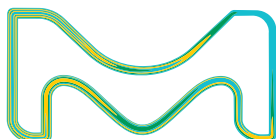
**MILLIPORE  
SIGMA**

The Fused-Core® technology behind our Ascentis® Express columns delivers maximum speed and efficiency on both UHPLC and HPLC systems.

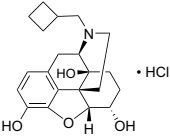

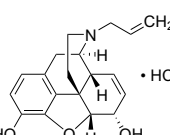
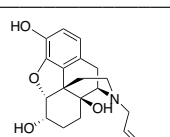
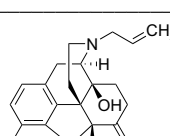
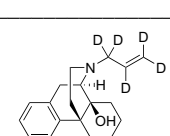
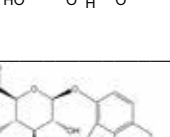
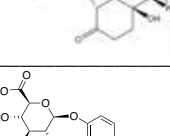
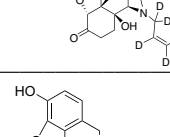
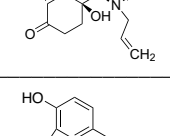
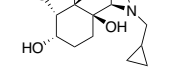
### Key Features and Benefits

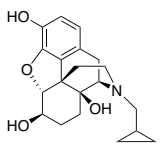
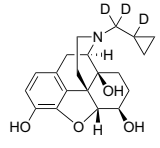
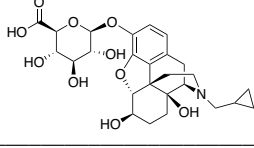
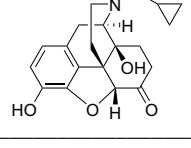
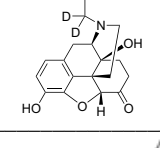
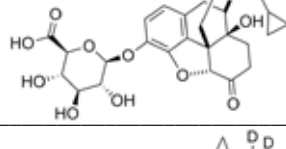
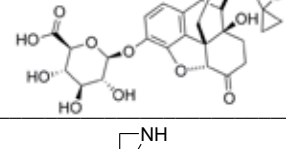
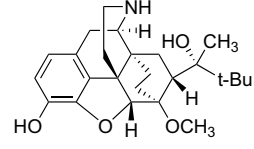
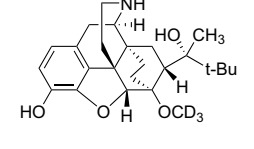
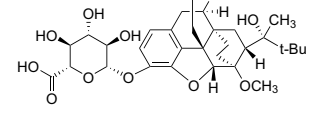
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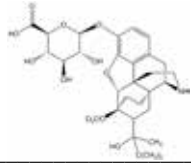
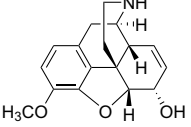
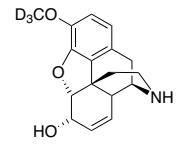
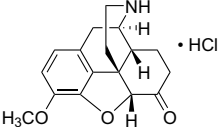
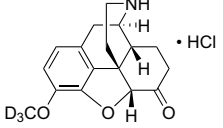
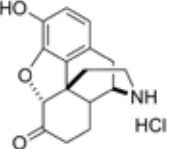
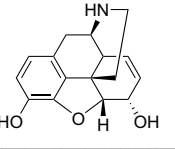
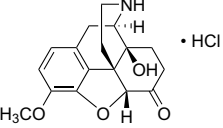
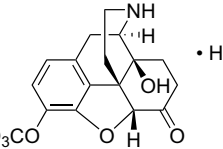
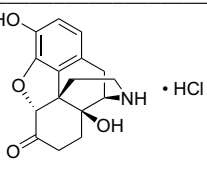
For more information, visit:  
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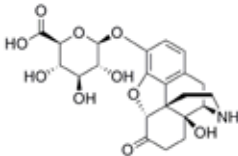
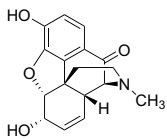
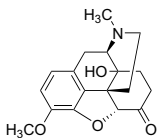
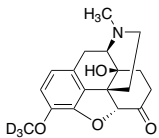
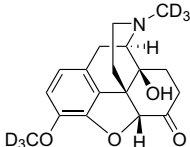
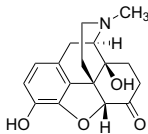
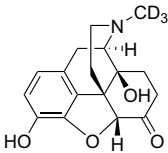
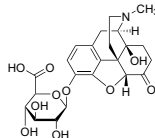
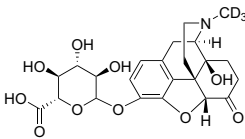


**Supelco®**  
Analytical Products

Product Name	ID	Cat. No.	Size	Structure
Nalbuphine HCl	23277-43-2 C <sub>21</sub> H <sub>27</sub> NO <sub>4</sub> ·HCl M.W. 393.90	<b>N-051-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Nalbuphine-D <sub>3</sub>	C <sub>21</sub> H <sub>24</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 360.46	<b>N-056-1ML</b>	100 µg/mL 1 mL Methanol	
Nalorphine HCl	57-29-4 C <sub>19</sub> H <sub>21</sub> NO <sub>3</sub> ·HCl M.W. 347.84	<b>N-924-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
6α-Naloxol	20410-95-1 C <sub>19</sub> H <sub>23</sub> NO <sub>4</sub> M.W. 329.39	<b>N-103-1ML</b>	1.0 mg/mL 1 mL Methanol	
Naloxone	465-65-6 C <sub>19</sub> H <sub>21</sub> NO <sub>4</sub> M.W. 327.37	<b>N-004-1ML</b>	1.0 mg/mL 1 mL Methanol	
Naloxone-D <sub>5</sub>	1261079-38-2 C <sub>19</sub> H <sub>16</sub> D <sub>5</sub> NO <sub>4</sub> M.W. 332.41	<b>N-063-1ML</b>	100 µg/mL 1 mL Methanol	
	1261079-38-2 C <sub>19</sub> H <sub>16</sub> D <sub>5</sub> NO <sub>4</sub> M.W. 332.41	<b>N-115-1ML</b>	1.0 mg/mL 1 mL Methanol	
Naloxone-3β-D-glucuronide	C <sub>25</sub> H <sub>29</sub> NO <sub>10</sub> M.W. 503.50	<b>N-099-1ML</b>	1.0 mg/mL 1mL 90:10 Methanol:Water	
Naloxone-D <sub>5</sub> -3β-D-glucuronide	C <sub>25</sub> H <sub>24</sub> D <sub>5</sub> NO <sub>10</sub> M.W. 508.53	<b>N-109-1ML</b>	100 µg/mL 1mL 90:10 Methanol:Water	
Naloxone N-Oxide	112242-14-5 C <sub>19</sub> H <sub>21</sub> NO <sub>5</sub> M.W. 343.37	<b>IMPN-007-04-1ML</b>	100 µg/mL 1 mL 1:1 Acetonitrile:Water	
6α-Naltrexol	20410-98-4 C <sub>20</sub> H <sub>25</sub> NO <sub>4</sub> M.W. 343.42	<b>N-113-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
6β-Naltrexol	49625-89-0 C <sub>20</sub> H <sub>25</sub> NO <sub>4</sub> M.W. 343.42	<b>N-038-1ML</b>	1.0 mg/mL 1 mL Methanol	
6β-Naltrexol-D <sub>3</sub>	C <sub>20</sub> H <sub>22</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 346.44	<b>N-081-1ML</b>	100 µg/mL 1 mL Methanol	
6β-Naltrexol-3β-D-glucuronide	1391506-73-2 C <sub>26</sub> H <sub>33</sub> NO <sub>10</sub> M.W. 519.54	<b>N-104-1ML</b>	1.0 mg/mL 1 mL 80:20 Acetonitrile:Water	
Naltrexone	16590-41-3 C <sub>20</sub> H <sub>23</sub> NO <sub>4</sub> M.W. 341.40	<b>N-007-1ML</b>	1.0 mg/mL 1 mL Methanol	
Naltrexone-D <sub>3</sub>	1261080-26-5 C <sub>20</sub> H <sub>20</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 344.42	<b>N-047-1ML</b>	100 µg/mL 1 mL Methanol	
Naltrexone-3β-D-glucuronide	76630-71-2 C <sub>26</sub> H <sub>31</sub> NO <sub>10</sub> M.W. 517.53	<b>N-106-1ML</b>	100 µg/mL 1 mL Methanol	
Naltrexone-D <sub>3</sub> -3β-D-glucuronide	C <sub>26</sub> H <sub>28</sub> D <sub>3</sub> NO <sub>10</sub> M.W. 520.54	<b>N-108-1ML</b>	100 µg/mL 1 mL Methanol	
Norbuprenorphine	78715-23-8 C <sub>25</sub> H <sub>35</sub> NO <sub>4</sub> M.W. 413.55	<b>N-912-1ML</b>	100 µg/mL 1 mL Methanol	
	78715-23-8 C <sub>25</sub> H <sub>35</sub> NO <sub>4</sub> M.W. 413.55	<b>N-059-1ML</b>	1.0 mg/mL 1 mL Methanol	
Norbuprenorphine-D <sub>3</sub>	350482-19-8 C <sub>25</sub> H <sub>32</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 416.57	<b>N-920-1ML</b>	100 µg/mL 1 mL Methanol	
	350482-19-8 C <sub>25</sub> H <sub>32</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 416.57	<b>N-921-1ML</b>	1.0 mg/mL 1 mL Methanol	
Norbuprenorphine glucuronide	469887-29-4 C <sub>31</sub> H <sub>43</sub> NO <sub>10</sub> M.W. 589.67	<b>N-045-1ML</b>	100 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Norbuprenorphine glucuronide-D <sub>3</sub>	C <sub>31</sub> H <sub>40</sub> D <sub>3</sub> NO <sub>10</sub> M.W. 592.69	<b>N-097-1ML</b>	100 µg/mL 1 mL Methanol	
Norcodeine	467-15-2 C <sub>17</sub> H <sub>19</sub> NO <sub>3</sub> M.W. 285.34	<b>N-005-1ML</b>	1.0 mg/mL 1 mL Methanol	
Norcodeine-D <sub>3</sub>	1435767-06-8 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>3</sub> M.W. 288.36	<b>N-082-1ML</b>	1.0 mg/mL 1 mL Methanol	
Norhydrocodone HCl	71968-04-2 C <sub>17</sub> H <sub>19</sub> NO <sub>3</sub> ·HCl M.W. 321.80	<b>N-053-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Norhydrocodone-D <sub>3</sub> HCl	1426173-17-2 C <sub>17</sub> D <sub>3</sub> H <sub>16</sub> NO <sub>3</sub> ·HCl M.W. 324.82	<b>N-054-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Norhydromorphone HCl	14140-35-3 C <sub>16</sub> H <sub>17</sub> NO <sub>3</sub> ·HCl M.W. 307.77	<b>N-107-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Normorphine	466-97-7 C <sub>16</sub> H <sub>17</sub> NO <sub>3</sub> M.W. 271.39	<b>N-006-1ML</b>	1.0 mg/mL 1 mL Methanol	
Noroxycodone HCl	52446-25-0 C <sub>17</sub> H <sub>19</sub> NO <sub>4</sub> ·HCl M.W. 337.80	<b>N-011-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Noroxycodone-D <sub>3</sub> HCl	1426174-79-9 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>4</sub> ·HCl M.W. 340.82	<b>N-032-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
	1426174-79-9 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>4</sub> ·HCl M.W. 340.82	<b>N-033-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Noroxymorphone HCl	52446-24-9 C <sub>16</sub> H <sub>17</sub> NO <sub>4</sub> ·HCl M.W. 323.77	<b>N-012-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol:DMSO (80:20)	
	52446-24-9 C <sub>16</sub> H <sub>17</sub> NO <sub>4</sub> ·HCl M.W. 323.77	<b>N-013-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Noroxymorphone-3β-D-glucuronide	76636-08-3 C <sub>22</sub> H <sub>25</sub> NO <sub>10</sub> M.W. 463.43	<b>N-111-1ML</b>	100 µg/mL 1 mL 80:20 Water:Methanol	
10-Oxomorphine (10-Ketomorphine)	68254-48-8 C <sub>17</sub> H <sub>17</sub> NO <sub>4</sub> M.W. 299.32	<b>IMPM-005-06-1ML</b>	100 µg/mL 1 mL Methanol	
Oxycodone	76-42-6 C <sub>18</sub> H <sub>21</sub> NO <sub>4</sub> M.W. 315.36	<b>O-002-1ML</b>	1.0 mg/mL 1 mL Methanol	
Oxycodone-D <sub>3</sub> (O-methyl-D <sub>3</sub> )	160227-46-3 C <sub>18</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 318.38	<b>O-005-1ML</b>	100 µg/mL 1 mL Methanol	
	160227-46-3 C <sub>18</sub> H <sub>18</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 318.38	<b>O-006-1ML</b>	1.0 mg/mL 1 mL Methanol	
Oxycodone-D <sub>6</sub>	152477-91-3 C <sub>18</sub> H <sub>15</sub> D <sub>6</sub> NO <sub>4</sub> M.W. 321.40	<b>O-007-1ML</b>	100 µg/mL 1 mL Methanol	
	152477-91-3 C <sub>18</sub> H <sub>15</sub> D <sub>6</sub> NO <sub>4</sub> M.W. 321.40	<b>O-008-1ML</b>	1.0 mg/mL 1 mL Methanol	
Oxymorphone	76-41-5 C <sub>17</sub> H <sub>19</sub> NO <sub>4</sub> M.W. 301.34	<b>O-004-1ML</b>	1.0 mg/mL 1 mL Methanol	
Oxymorphone-D <sub>3</sub>	145225-03-2 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 304.36	<b>O-003-1ML</b>	100 µg/mL 1 mL Methanol	
	145225-03-2 C <sub>17</sub> H <sub>16</sub> D <sub>3</sub> NO <sub>4</sub> M.W. 304.36	<b>O-019-1ML</b>	1.0 mg/mL 1 mL Methanol	
Oxymorphone-3β-D-glucuronide	770735-01-8 C <sub>23</sub> H <sub>27</sub> NO <sub>10</sub> M.W. 477.46	<b>O-030-1ML</b>	100 µg/mL 1 mL 1:1 Methanol:Water	
Oxymorphone-D <sub>3</sub> -3β-D-glucuronide	C <sub>23</sub> D <sub>3</sub> H <sub>24</sub> NO <sub>10</sub> M.W. 480.47	<b>O-031-1ML</b>	100 µg/mL 1 mL 1:1 Methanol:Water	

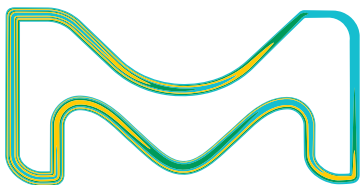
# pure & ultrapure water

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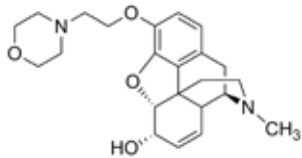
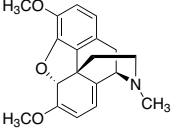


- Superior quality pure & ultrapure water
- Simple & intuitive to use
- Versatile for your current & future needs
- Sustainable design

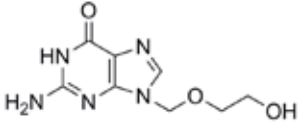
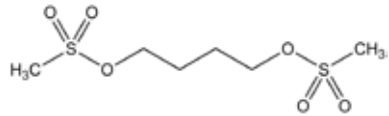
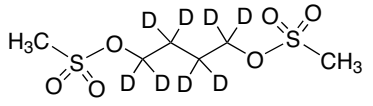
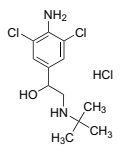
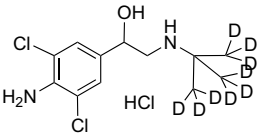
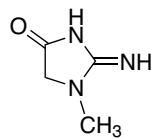
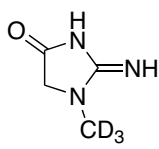
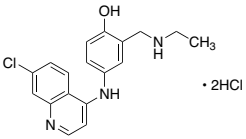
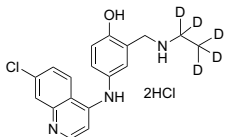
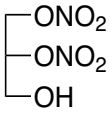
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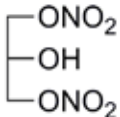
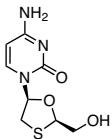
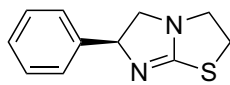
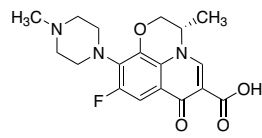
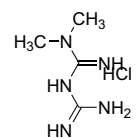
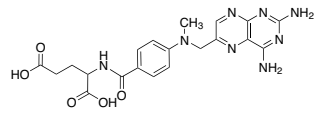
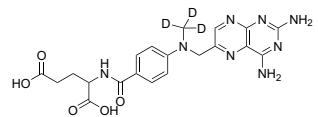
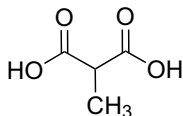
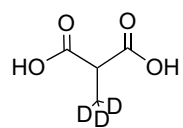
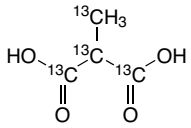




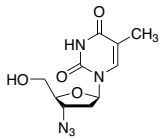
Product Name	ID	Cat. No.	Size	Structure
Pholcodine	509-67-1 C <sub>23</sub> H <sub>30</sub> N <sub>2</sub> O <sub>4</sub> M.W. 398.50	P-119-1ML	1.0 mg/mL 1 mL Methanol	
Thebaine	115-37-7 C <sub>19</sub> H <sub>21</sub> NO <sub>3</sub> M.W. 311.37	T-116-1ML	1.0 mg/mL 1 mL Methanol	

## Other Drugs & Biomarkers

Product Name	ID	Cat. No.	Size	Structure
Acyclovir	59277-89-3 C <sub>8</sub> H <sub>11</sub> N <sub>5</sub> O <sub>3</sub> M.W. 225.20	A-132-1ML	1.0 mg/mL 1mL 1:1 Methanol:Water	
Busulfan	55-98-1 C <sub>6</sub> H <sub>14</sub> O <sub>6</sub> S <sub>2</sub> M.W. 246.30	B-058-1ML	1.0 mg/mL 1 mL Methanol	
Busulfan-D <sub>8</sub>	116653-28-2 C <sub>6</sub> H <sub>6</sub> D <sub>8</sub> O <sub>6</sub> S <sub>2</sub> M.W. 254.35	B-068-1ML	100 µg/mL 1 mL Methanol	
Clenbuterol HCl	21898-19-1 C <sub>12</sub> H <sub>18</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 313.65	C-080-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Clenbuterol-D <sub>9</sub> HCl	184006-60-8 C <sub>12</sub> D <sub>9</sub> H <sub>9</sub> Cl <sub>2</sub> N <sub>2</sub> O·HCl M.W. 322.71	C-081-1ML	100 µg/mL (as free base) 1 mL Methanol	
Creatinine	60-27-5 C <sub>4</sub> H <sub>7</sub> N <sub>3</sub> O M.W. 113.12	C-164-1ML	2.0 mg/mL 1mL Methanol:Water (50:50)	
Creatinine-D <sub>3</sub>	143827-20-7 C <sub>4</sub> D <sub>3</sub> H <sub>4</sub> N <sub>3</sub> O M.W. 116.14	C-165-1ML	100 µg/mL 1mL Methanol:Water	
N-Desethylamodiaquine diHCl	79049-30-2 C <sub>18</sub> H <sub>18</sub> ClN <sub>3</sub> O·2HCl M.W. 400.73	D-039-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
N-Desethylamodiaquine-D <sub>5</sub> diHCl	1216894-33-5 C <sub>18</sub> H <sub>13</sub> D <sub>5</sub> ClN <sub>3</sub> O·2HCl M.W. 405.76	D-040-1ML	100 µg/mL (as free base) 1 mL Methanol	
1,2-Dinitroglycerin	621-65-8 C <sub>3</sub> H <sub>6</sub> N <sub>2</sub> O <sub>7</sub> M.W. 182.09	D-002	100 µg/mL 1 mL Acetonitrile	
	621-65-8 C <sub>3</sub> H <sub>6</sub> N <sub>2</sub> O <sub>7</sub> M.W. 182.09	D-010	1.0 mg/mL 1 mL Acetonitrile	

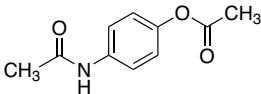
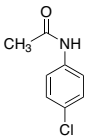

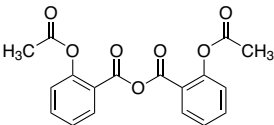
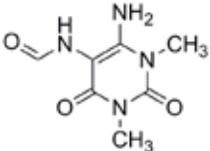
Product Name	ID	Cat. No.	Size	Structure
1,3-Dinitroglycerin	623-87-0 C <sub>3</sub> H <sub>6</sub> N <sub>2</sub> O <sub>7</sub> M.W. 182.09	<b>D-003</b>	100 µg/mL 1 mL Acetonitrile	
	623-87-0 C <sub>3</sub> H <sub>6</sub> N <sub>2</sub> O <sub>7</sub> M.W. 182.09	<b>D-011</b>	1.0 mg/mL 1 mL Acetonitrile	
Lamivudine	134678-17-4 C <sub>8</sub> H <sub>11</sub> N <sub>3</sub> O <sub>3</sub> S M.W. 229.26	<b>L-037-1ML</b>	1.0 mg/mL 1 mL Methanol	
(-)-Levamisole HCl	16595-80-5 C <sub>11</sub> H <sub>12</sub> N <sub>2</sub> S·HCl M.W. 240.75	<b>L-025-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Levofloxacin	100986-85-4 C <sub>18</sub> H <sub>20</sub> FN <sub>3</sub> O <sub>4</sub> M.W. 361.37	<b>L-038-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Metformin HCl	1115-70-4 C <sub>4</sub> H <sub>11</sub> N <sub>5</sub> ·HCl M.W. 165.62	<b>M-072-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Methotrexate	59-05-2 C <sub>20</sub> H <sub>22</sub> N <sub>8</sub> O <sub>5</sub> M.W. 454.44	<b>M-136-1ML</b>	1.0 mg/mL 1 mL Methanol with 0.1N NaOH	
Methotrexate-D <sub>3</sub>	432545-63-6 C <sub>20</sub> H <sub>19</sub> D <sub>3</sub> N <sub>8</sub> O <sub>5</sub> M.W. 457.46	<b>M-153-1ML</b>	100 µg/mL 1 mL Methanol with 0.1N NaOH	
Methylmalonic acid	516-05-2 C <sub>4</sub> H <sub>6</sub> O <sub>4</sub> M.W. 118.09	<b>M-080-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Methyl-D <sub>3</sub> -malonic acid	42522-59-8 C <sub>4</sub> H <sub>3</sub> D <sub>3</sub> O <sub>4</sub> M.W. 121.11	<b>M-105-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Methylmalonic acid- <sup>13</sup> C <sub>4</sub>	1173019-21-0 <sup>13</sup> C <sub>4</sub> H <sub>6</sub> O <sub>4</sub> M.W. 122.06	<b>M-173-1ML</b>	100 µg/mL 1 mL Acetonitrile	

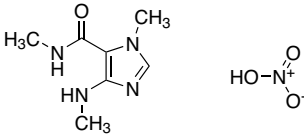
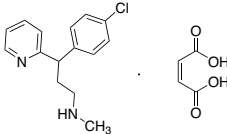
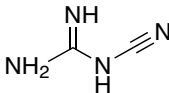
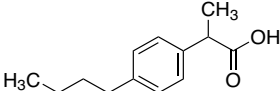
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Metronidazole	443-48-1 C <sub>6</sub> H <sub>8</sub> N <sub>2</sub> O <sub>3</sub> M.W. 171.15	M-183-1ML	2.0 mg/mL 1 mL Methanol	
Metronidazole-D <sub>3</sub>	83413-09-6 C <sub>6</sub> H <sub>6</sub> D <sub>3</sub> N <sub>2</sub> O <sub>3</sub> M.W. 174.17	M-184-1ML	1.0 mg/mL 1 mL Methanol	
1-Mononitroglycerin	624-43-1 C <sub>3</sub> H <sub>7</sub> NO <sub>5</sub> M.W. 137.09	M-001	100 µg/mL 1 mL Acetonitrile	
	624-43-1 C <sub>3</sub> H <sub>7</sub> NO <sub>5</sub> M.W. 137.09	M-077	1.0 mg/mL 1 mL Acetonitrile	
2-Mononitroglycerin	620-12-2 C <sub>3</sub> H <sub>7</sub> NO <sub>5</sub> M.W. 137.09	M-002	100 µg/mL 1 mL Acetonitrile	
	620-12-2 C <sub>3</sub> H <sub>7</sub> NO <sub>5</sub> M.W. 137.09	M-078	1.0 mg/mL 1 mL Acetonitrile	
Omeprazole	73590-58-6 C <sub>11</sub> H <sub>19</sub> N <sub>2</sub> O <sub>3</sub> S M.W. 345.42	O-021-1ML	1.0 mg/mL 1 mL Methanol	
Sildenafil	139755-83-2 C <sub>22</sub> H <sub>30</sub> N <sub>6</sub> O <sub>4</sub> S M.W. 474.58	S-010-1ML	1.0 mg/mL 1 mL Methanol	
Suvorexant-D <sub>6</sub>	C <sub>23</sub> H <sub>17</sub> D <sub>6</sub> ClN <sub>6</sub> O <sub>2</sub> M.W. 456.96	S-115-1ML	100 µg/mL 1 mL Methanol	
Tadalafil	171596-29-5 C <sub>22</sub> H <sub>19</sub> N <sub>3</sub> O <sub>4</sub> M.W. 389.40	T-072-1ML	1.0 mg/mL 1 mL Acetonitrile	
Trinitroglycerin	55-63-0 C <sub>3</sub> H <sub>5</sub> N <sub>3</sub> O <sub>9</sub> M.W. 227.09	T-002	1000 µg/mL 1 mL Acetonitrile	
	55-63-0 C <sub>3</sub> H <sub>5</sub> N <sub>3</sub> O <sub>9</sub> M.W. 227.09	T-021	1% w/w 1 mL Propylene glycol	
Vardenafil diHCl	224785-90-4 C <sub>23</sub> H <sub>32</sub> N <sub>6</sub> O <sub>4</sub> S·diHCl M.W. 561.52	V-902-1ML	1.0 mg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Zidovudine	30516-87-1 C <sub>10</sub> H <sub>13</sub> N <sub>5</sub> O <sub>4</sub> M.W. 267.24	Z-011-1ML	1.0 mg/mL 1 mL Methanol	 The chemical structure of Zidovudine is a nucleoside analog. It consists of a pyrimidine ring fused to a ribose sugar ring. The pyrimidine ring has a methyl group (CH <sub>3</sub> ) at the 5-position and a carbonyl group (C=O) at the 2-position. The ribose sugar ring has a hydroxyl group (OH) at the 3-position and a nitrogen atom (N <sub>3</sub> ) at the 4-position.

## Pharmaceutical Impurities

Impurities can significantly impact the efficacy and safety of drug products. Accurate detection and control of impurities in drug substances and drug products is an important element of Quality by Design, ICH, and GMP requirements. During manufacture of a drug material, impurities can arise from many different sources including drug substance residual impurities, degradation, extractables and leachables, as well as impurities present in or derived from excipients. Typically, Pharmacopoeial Monographs identify multiple impurities for a given drug substance that require each impurity to be analytically verified by a chromatographic method. Multiple sample preparations are usually required, the process can be a time consuming burden and offer significant opportunity for increased uncertainty and error in the analysis. With our pharmaceutical impurity solution mixes we offer a time efficient, accurate and reproducible option for pharmaceutical analysis.

Product Name	ID	Cat. No.	Size	Structure
Acetaminophen (Paracetamol) Impurity Mixture		<b>A-134-1ML</b>	25 µg/mL ( <i>each analyte</i> ) 1 mL Methanol	
Acetaminophen Impurity Mixture Additional		<b>A-165-1ML</b>	25 µg/mL ( <i>each analyte</i> ) 1 mL Methanol	
4'-Acetoxyacetanilide (Acetaminophen RCA)	2623-33-8 C <sub>10</sub> H <sub>11</sub> NO <sub>3</sub> M.W. 193.20	<b>A-135-1ML</b>	250 µg/mL 1 mL Acetonitrile	
4-Chloroacetanilide (Acetaminophen RCJ)	539-03-7 C <sub>8</sub> H <sub>7</sub> NO·HCl M.W. 169.61	<b>C-166-1ML</b>	250 µg/mL 1 mL Acetonitrile	
4-Aminophenol (Acetaminophen RCK)	123-30-8 C <sub>6</sub> H <sub>7</sub> NO M.W. 109.13	<b>A-136-1ML</b>	250 µg/mL 1 mL Acetonitrile	
Aspirin Impurity Mixture		<b>A-143-1ML</b>	100 µg/mL ( <i>each analyte</i> ) 1 mL Acetonitrile	
Acetylsalicylic Anhydride (Aspirin Impurity F)	1466-82-6 C <sub>18</sub> H <sub>14</sub> O <sub>7</sub> M.W. 342.30	<b>A-155-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Atorvastatin Impurity Mixture		<b>A-151-1ML</b>	50 µg/mL ( <i>each analyte</i> ) 1 mL Methanol	
Bupropion Impurity Mixture		<b>B-082-1ML</b>	100 µg/mL ( <i>each analyte</i> ) 1 mL Methanol	
Bupropion System Suitability Mix		<b>B-069-1ML</b>	12-20 µg/mL 1 mL 80:20 0.001N HCl:Methanol	
Caffeine Impurity Mixture		<b>C-175-1ML</b>	0.04-2.0 mg/mL 1 mL 50:50 Acetonitrile:Water	
6-Amino-1,3-dimethyl-5- (formylamino) uracil (Caffeine Imp B)	7597-60-6 C <sub>7</sub> H <sub>10</sub> N <sub>4</sub> O <sub>3</sub> M.W. 198.18	<b>C-194-1ML</b>	40 µg/mL 1 mL 50:50 ACN:Water	

Product Name	ID	Cat. No.	Size	Structure
Caffeine Impurity E Nitrate	209725-34-8 C <sub>7</sub> H <sub>13</sub> N <sub>3</sub> O <sub>4</sub> M.W. 231.21	<b>C-195-1ML</b>	100 µg/mL 1 mL Methanol	
Chlorpheniramine Impurity Mixture		<b>C-193-1ML</b>	50 µg/mL ( <i>each analyte</i> ) 1 mL Acetonitrile:Methanol (95:5)	
Chlorpheniramine Impurity C	22630-25-7 C <sub>15</sub> H <sub>17</sub> ClN <sub>2</sub> ·C <sub>4</sub> H <sub>4</sub> O <sub>4</sub> M.W. 376.83	<b>C-197-1ML</b>	50 µg/mL 1 mL Acetonitrile	
Cyanoguanidine (Metformin Related Compound A)	461-58-5 C <sub>2</sub> H <sub>4</sub> N <sub>4</sub> M.W. 84.08	<b>M-196-1ML</b>	50 µg/mL 1 mL Methanol	
Fluconazole Impurity Mixture		<b>F-051-1ML</b>	10 µg/mL ( <i>each analyte</i> ) 1 mL 80:20 Water:Acetonitrile	
Fluticasone Impurity Mixture		<b>F-061-1ML</b>	20 µg/mL ( <i>each analyte</i> ) 1 mL 0.05% H <sub>3</sub> PO <sub>4</sub> in Acetonitrile	
Furosemide Impurity Mixture		<b>F-052-1ML</b>	5 µg/mL ( <i>each analyte</i> ) 1 mL 50:50 Acetonitrile:Water	
Guaifenesin Impurity Mixture		<b>G-022-1ML</b>	0.5-1.0 mg/mL ( <i>each analyte</i> ) 1 mL Acetonitrile	
Ibuprofen Impurity Mixture		<b>I-036-1ML</b>	25 µg/mL ( <i>each analyte</i> ) 1 mL Acetonitrile	
Ibuprofen Impurity B (PhEur)	C <sub>13</sub> H <sub>17</sub> O <sub>2</sub> ·Na M.W. 228.26	<b>I-037-1ML</b>	100 µg/mL ( <i>as free acid</i> ) 1 mL 90:10 Acetonitrile:Water	
Lidocaine Impurity Mixture		<b>L-048-1ML</b>	20-200 µg/mL ( <i>each analyte</i> ) 1 mL Acetonitrile	
Metformin Impurity Mixture		<b>M-195-1ML</b>	50 µg/mL ( <i>each analyte</i> ) 1 ml Methanol	
Nevirapine Impurity Mixture		<b>N-116-1ML</b>	15-30 µg/mL ( <i>each analyte</i> ) 1 mL 80:20 25mM NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> (pH 5):Acetonitrile	
Omeprazole Impurity Mixture		<b>O-048-1ML</b>	60 µg/mL ( <i>each analyte</i> ) 1 mL Acetonitrile	
Parabens Impurity Mixture		<b>P-125-1ML</b>	50 µg/mL ( <i>each analyte</i> ) 1 mL Acetonitrile	
Pramipexole Chiral System Suitability Solution		<b>P-140-1ML</b>	10 µg/mL 1 mL 85:15:0.1 Hexane:Ethanol:DEA	
Pramipexole Organic Impurity System Suitability Mixture		<b>P-141-1ML</b>	15-37.5 µg/mL 1 mL Acetonitrile:Water (80:20)	
Pyridoxine Impurity Mixture		<b>P-126-1ML</b>	50 µg/mL ( <i>each analyte</i> ) MeOH to Methanol	
Riboflavin Impurity Mixture		<b>R-029-1ML</b>	90 µg/mL ( <i>each analyte</i> ) 1 mL Water	
Rivastigmine Impurity Mixture		<b>R-030-1ML</b>	100 µg/mL ( <i>each analyte</i> ) 1 mL Methanol	

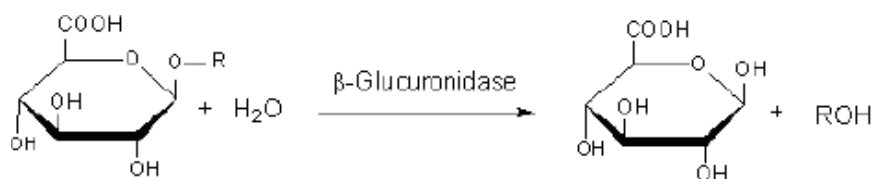
Product Name	ID	Cat. No.	Size	Structure
Salicylic Acid Impurity Mixture		<b>S-100-1ML</b>	10-500 µg/mL 1mL Methanol:Water (50:50)	
Thiamine Impurity Mixture		<b>T-134-1ML</b>	100 µg/mL ( <i>each analyte</i> ) 1 mL Methanol:1% Acetic Acid 50:50	



# Accelerating hydrolysis efficiency

Hydrolyze your compounds with our non-recombinant and recombinant  $\beta$ -Glucuronidase enzymes

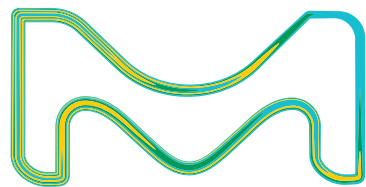
Glucuronidation, conjugation with glucuronic acid, by the human UDP-glucuronosyltransferase (UGT) family of enzymes plays an important role in the metabolic fate of many drugs and other xenobiotics. Enzymatic hydrolysis is often a crucial step in order to cleave these glucuronidated compounds and allow them to be more amenable for downstream analysis in toxicology testing.



## Extensive range of $\beta$ -Glucuronidase enzymes include:

- Both recombinant and non-recombinant enzymes, including those with various sulfatase levels to optimize your hydrolysis
- Many sources and purified options:
  - **Molluskan**
  - **Bovine Liver**
  - **E. Coli**

Explore our full B-Glucuronidase offering at:  
[sigmaaldrich.com/B-Gluc](http://sigmaaldrich.com/B-Gluc)

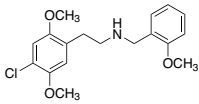
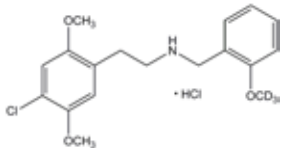
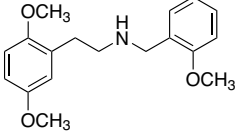
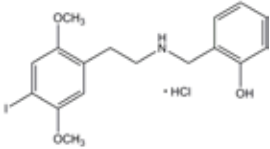
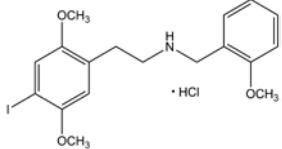
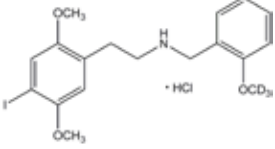


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## Phenethylamines

Phenethylamines possess stimulant and hallucinogenic effects and are classified as entactogens, psychoactive molecules enhancing empathy and feelings of emotional closeness. Phenethylamines are synthetic compounds, commonly known as party pills, acting on serotonin receptors and in some cases also inhibiting monoamine reuptake, leading to psychedelic effects. During the last few years, increased use of new phenethylamine derivatives on the recreational drug scene has been observed, including ring-substituted molecules such as the 2C series, Bromo-DragonFly and 2C-B-Fly. Several cases of intoxications resulted in symptoms and side effects including hypertension, hyperthermia, convulsions, dissociation, hallucinations, respiratory deficits, liver and kidney failure, and death in case of overdose.


Product Name	ID	Cat. No.	Size	Structure
25B-NBOMe HCl	$C_{18}H_{22}BrNO_3 \cdot HCl$ M.W. 416.74	<b>B-061-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
25B-NBOMe-D <sub>3</sub> HCl	$C_{18}H_{19}D_3BrNO_3 \cdot HCl$ M.W. 419.76	<b>B-062-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
R-(-)-Bromo-DragonFLY HCl	332012-24-5 $C_{13}H_{12}BrNO_2 \cdot HCl$ M.W. 330.6	<b>B-049-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
4-Bromo-2,5-dimethoxy-phenethylamine HCl (2C-B)	56281-37-9 $C_{10}H_{14}BrNO_2 \cdot HCl$ M.W. 296.59	<b>B-026-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
2C-B-FLY HCl	178557-21-6 $C_{12}H_{14}BrNO_2 \cdot HCl$ M.W. 320.61	<b>C-122-1ML</b>	1.0 mg/mL (as free base) 1mL 90:10 Acetonitrile:Water	
2C-B-FLY-D <sub>4</sub> HCl	1346746-84-6 $C_{12}H_{10}D_4BrNO_2 \cdot HCl$ M.W. 324.63	<b>C-133-1ML</b>	100 µg/mL (as free base) 1mL 90:10 Acetonitrile:Water	
4-Chloro-2,5-Dimethoxy-phenethylamine HCl (2C-C HCl)	88441-15-0 $C_{10}H_{14}ClNO_2 \cdot HCl$ M.W. 252.14	<b>C-124-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
2,5-Dimethoxy-4-ethylphenethylamine HCl (2C-E HCl)	923013-67-6 $C_{12}H_{19}NO_2 \cdot HCl$ M.W. 245.75	<b>E-083-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
25C-NBOMe HCl	1539266-19-7	<b>C-131-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	 • HCl
25C-NBOMe-D <sub>3</sub> HCl		<b>C-132-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	 • HCl
25H-NBOMe HCl	1566571-52-5	<b>H-115-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	 • HCl
25I-NBOH HCl		<b>I-019-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	 • HCl
25I-NBOMe HCl	1043868-97-8	<b>I-016-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	 • HCl
25I-NBOMe-D <sub>3</sub> HCl		<b>I-017-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	 • HCl

## Proteins

Quantitative LC-MS/MS or MALDI-MS protein testing applications have greatly contributed to the maturation of quantitative proteomics due to its high sensitivity and specificity in various fields such as Pharma, Clinical and Food regulation testing. As proteins are identified as important biomarkers of disease, the use of quantitative LC-MS/MS assays to screen proteins that are diagnostic for disorders has greatly increased in recent years. Cerilliant® fully intact Protein Certified Reference Materials for diagnostic testing, pharmaceutical release testing and food safety testing are used as reference standards in qualitative and quantitative LC-MS/MS applications to guarantee accurate and reproducible results.

Product Name	ID	Cat. No.	Size
C-Peptide	33017-11-7 C <sub>129</sub> H <sub>211</sub> N <sub>35</sub> O <sub>48</sub> M.W. 3020.26	<b>C-161-0.1ML</b>	100 µg/mL 100 µL PBS
IGF-1	67763-96-6 M.W. 7600.00	<b>I-033-1ML</b>	100 µg/mL 1 mL 2mM Methionine with 2% Acetic acid in Water
Human Insulin in PBS	11061-68-0 C <sub>257</sub> H <sub>383</sub> N <sub>65</sub> O <sub>77</sub> S <sub>6</sub> M.W. 5807.57	<b>I-034-0.1ML</b>	100 µg/mL 100 µL PBS pH 7.2
Insulin from bovine pancreas	11070-73-8 C <sub>254</sub> H <sub>377</sub> N <sub>65</sub> O <sub>75</sub> S <sub>6</sub> M.W. 5733.49	<b>I-035-0.5ML</b>	100 µg/mL 0.5 mL PBS pH 7.2
α-Lactalbumin (from bovine milk)	9051-29-0 M.W. 14175.00	<b>L-045-100MG</b>	100 mg
β-Lactoglobulin A & B (from bovine milk)	9045-23-2 M.W. 18400.00	<b>L-046-100MG</b>	100 mg
Lactoferrin (from bovine milk)	146897-68-9 M.W. 87000.00	<b>L-047-50MG</b>	50 mg
Thyroglobulin	9010-34-8 M.W. 660000.00	<b>T-113-1ML</b>	10 µg/mL 1 mL SigMatrix™




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#### Faster Separation of Proteins, Peptides, and Glycans


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**Features and benefits:**

- Maximum speed and high efficiency with U/HPLC columns for protein, peptide, and glycan separations
- Novel, superficially porous silica particles (SPP), with pore sizes ranging from 90 Å up to 1000 Å



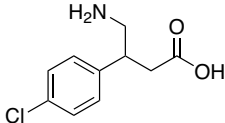
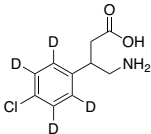
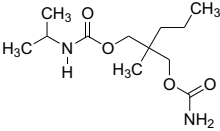
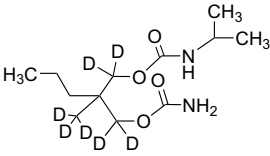
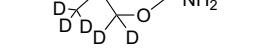
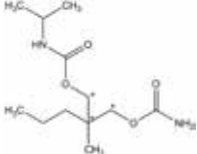
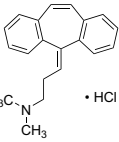
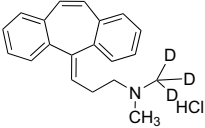
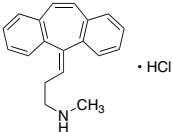
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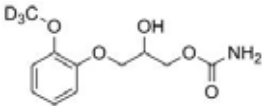
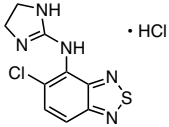
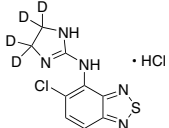
**Supelco®**  
Analytical Products

## Skeletal Muscle Relaxants (Non-Benzodiazepine)

Skeletal muscle relaxants, such as carisoprodol, cyclobenzaprine, baclofen, and metaxalone, are prescribed to alleviate musculoskeletal pain and spasms. Consumption of muscle relaxants can produce effects similar to analgesics including drowsiness, dizziness, and impaired judgment. These drugs exhibit a high abuse potential, and subsequently, are controlled in many parts of the world from various EU member countries, to the United States and Canada. Drug abusers often combine muscle relaxants with other drugs such as alcohol, heroin, benzodiazepines, or prescription opioids to enhance their effects.

Product Name	ID	Cat. No.	Size	Structure
Baclofen	1134-47-0 C <sub>10</sub> H <sub>12</sub> ClNO <sub>2</sub> M.W. 213.66	<b>B-071-1ML</b>	500 µg/mL 1 mL 90:10 Methanol:DMSO	
(±)-Baclofen-D <sub>4</sub>	1189938-30-4 C <sub>10</sub> H <sub>8</sub> D <sub>4</sub> ClNO <sub>2</sub> M.W. 217.69	<b>B-067-1ML</b>	100 µg/mL 1 mL Methanol	
Carisoprodol	78-44-4 C <sub>12</sub> H <sub>24</sub> N <sub>2</sub> O <sub>4</sub> M.W. 260.33	<b>C-077-1ML</b>	1.0 mg/mL 1 mL Methanol	
Carisoprodol-D <sub>7</sub>	1218911-16-0 C <sub>12</sub> D <sub>7</sub> H <sub>17</sub> N <sub>2</sub> O <sub>4</sub> M.W. 267.37	<b>C-083-1ML</b>	100 µg/mL 1 mL Methanol	
Carisoprodol- <sup>13</sup> C <sub>3</sub>	1218911-16-0 C <sub>12</sub> D <sub>7</sub> H <sub>17</sub> N <sub>2</sub> O <sub>4</sub> M.W. 267.37	<b>C-123-1ML</b>	1.0 mg/mL 1 mL Methanol	
Carisoprodol- <sup>13</sup> C <sub>3</sub>	C <sub>9</sub> 13C <sub>3</sub> H <sub>24</sub> N <sub>2</sub> O <sub>4</sub> M.W. 263.31	<b>C-134-1ML</b>	100 µg/mL 1 mL Methanol	
Cyclobenzaprine HCl	6202-23-9 C <sub>20</sub> H <sub>21</sub> N·HCl M.W. 311.85	<b>C-060-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	
Cyclobenzaprine-D <sub>3</sub> HCl	1184983-42-3 C <sub>20</sub> H <sub>18</sub> D <sub>3</sub> N·HCl M.W. 314.87	<b>C-114-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
N-Desmethylcyclobenzaprine HCl	438-59-5 C <sub>19</sub> H <sub>19</sub> N·HCl M.W. 297.82	<b>D-088-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	

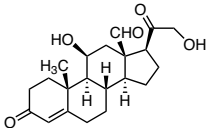
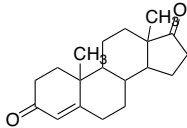
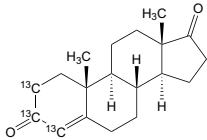
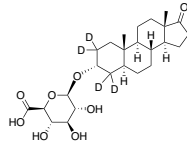
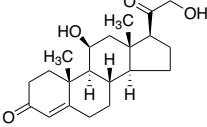
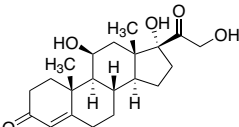
Product Name	ID	Cat. No.	Size	Structure
N-Desmethylcyclo-benzaprine-D <sub>3</sub> HCl	C <sub>15</sub> H <sub>16</sub> D <sub>3</sub> N·HCl M.W. 300.84	<b>D-089-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Meprobamate	57-53-4 C <sub>9</sub> H <sub>18</sub> N <sub>2</sub> O <sub>4</sub> M.W. 218.25	<b>M-039-1ML</b>	1.0 mg/mL 1 mL Methanol	
Meprobamate-D <sub>3</sub>	1185106-66-4 C <sub>9</sub> H <sub>15</sub> D <sub>3</sub> N <sub>2</sub> O <sub>4</sub> M.W. 221.27	<b>M-181-1ML</b>	100 µg/mL 1 mL Methanol	
Meprobamate-D <sub>7</sub> (propyl-D <sub>7</sub> )	1435933-83-7 C <sub>9</sub> H <sub>11</sub> D <sub>7</sub> N <sub>2</sub> O <sub>4</sub> M.W. 225.29	<b>M-131-1ML</b>	100 µg/mL 1 mL Methanol	
Meprobamate-D <sub>7</sub> (2-methyl-1,3-propanediol-D <sub>7</sub> )	1411774-82-7 C <sub>9</sub> D <sub>7</sub> H <sub>11</sub> N <sub>2</sub> O <sub>4</sub> M.W. 225.29	<b>M-073-1ML</b>	1.0 mg/mL 1 mL Methanol	
Meprobamate- <sup>13</sup> C <sub>3</sub>	C <sub>6</sub> <sup>13</sup> C <sub>3</sub> H <sub>18</sub> N <sub>2</sub> O <sub>4</sub> M.W. 221.23	<b>M-178-1ML</b>	100 µg/mL 1 mL Methanol	
Metaxalone	1665-48-1 C <sub>12</sub> H <sub>15</sub> NO <sub>3</sub> M.W. 221.25	<b>M-074-1ML</b>	1.0 mg/mL 1 mL Methanol	
Methaqualone	72-44-6 C <sub>16</sub> H <sub>14</sub> N <sub>2</sub> O M.W. 250.3	<b>M-015-1ML</b>	1.0 mg/mL 1 mL Methanol	
Methaqualone-D <sub>7</sub>	136765-41-8 C <sub>16</sub> H <sub>7</sub> D <sub>7</sub> N <sub>2</sub> O M.W. 257.34	<b>M-014-1ML</b>	100 µg/mL 1 mL Methanol	
Methocarbamol	532-03-6 C <sub>11</sub> H <sub>15</sub> NO <sub>5</sub> M.W. 241.24	<b>M-201-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	

Product Name	ID	Cat. No.	Size	Structure
Methocarbamol-D <sub>3</sub>	1346600-86-9 C <sub>11</sub> H <sub>12</sub> D <sub>3</sub> NO <sub>5</sub> M.W. 244.26	<b>M-202-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Tizanidine HCl	64461-82-1 C <sub>9</sub> H <sub>8</sub> ClN <sub>5</sub> S·HCl M.W. 290.17	<b>T-085-1ML</b>	500 µg/mL 1 mL Methanol	
Tizanidine-D <sub>4</sub> HCl	1188263-51-5 C <sub>9</sub> H <sub>4</sub> D <sub>4</sub> ClN <sub>5</sub> S·HCl M.W. 294.2	<b>T-120-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	

## Steroids/Hormones

Steroids comprise a diverse group of cell signaling molecules that have therapeutic efficacy in the treatment of diseases including osteoporosis, inflammation, anemia, sexual dysfunction, and the rebuilding of muscles after a debilitating disease. Besides pharmaceutical use, steroids are often used illicitly to increase strength and lean muscle mass and to boost athletic performance.

Hormones are endogenous biomarkers that control, regulate, and influence the activity of complex physiological processes such as metabolism, growth, and fertility. Major hormone categories listed include corticosteroids, glucocorticoids, and sex hormone classes such as estrogens, progestogens, and androgens. Hormone testing has increased significantly in the clinical laboratory setting in the past as advances in the specificity and selectivity of LC-MS/MS technology have enabled hormones to serve as indicators for a variety of diseases from congenital disorders, heart disease, and psychiatric illnesses to numerous cancers. Newborn screening (NBS) of hormones, for example, is routinely performed by LC-MS/MS to aid in the diagnosis of congenital adrenal hyperplasia (CAH), genetic disorders affecting the adrenal glands. Hormone testing has also expanded to include personalized health markets, where hormone panels are marketed for comprehensive 'wellness' screens or 'anti-aging' diagnostics. Apart from their use in established clinical and diagnostic testing applications, hormones have shown efficacy in the treatment and diagnosis of severe pain. Pain management clinics have increasingly incorporated hormone testing protocols to determine a patient's degree of pain, and whether hormone replacement therapy is required as a part of pain reduction strategies.

Product Name	ID	Cat. No.	Size	Structure
Aldosterone	52-39-1 C <sub>21</sub> H <sub>28</sub> O <sub>5</sub> M.W. 360.44	<b>A-096-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Androstenedione	63-05-8 C <sub>19</sub> H <sub>26</sub> O <sub>2</sub> M.W. 286.41	<b>A-075-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Androstene-3,17-dione-2,3,4- <sup>13</sup> C <sub>3</sub>	327048-86-2 <sup>13</sup> C <sub>3</sub> C <sub>16</sub> H <sub>26</sub> O <sub>2</sub> M.W. 289.39	<b>A-084-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Androsterone-D <sub>4</sub> glucuronide	C <sub>25</sub> H <sub>34</sub> D <sub>4</sub> O <sub>8</sub> M.W. 470.59	<b>A-099-1ML</b>	100 µg/mL 1 mL Methanol	
	C <sub>25</sub> H <sub>34</sub> D <sub>4</sub> O <sub>8</sub> M.W. 470.59	<b>A-131-1ML</b>	1.0 mg/mL 1 mL Methanol	
Corticosterone	50-22-6 C <sub>21</sub> H <sub>30</sub> O <sub>4</sub> M.W. 346.46	<b>C-117-1ML</b>	1.0 mg/mL 1 mL Methanol	
Cortisol	50-23-7 C <sub>21</sub> H <sub>30</sub> O <sub>5</sub> M.W. 362.46	<b>C-106-1ML</b>	1.0 mg/mL 1 mL Methanol	



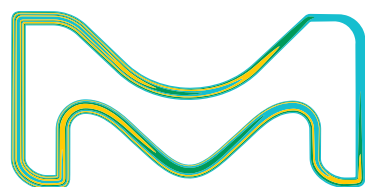
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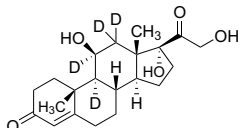
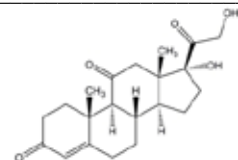
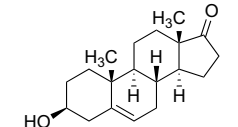
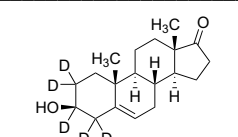
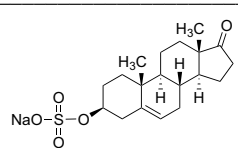
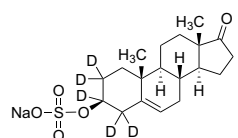
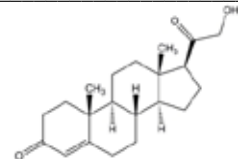
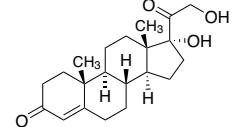
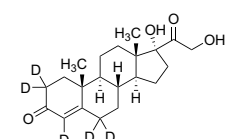
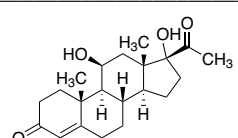
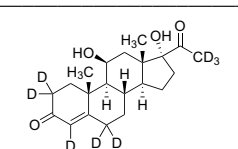
In-matrix Calibrators for Clinical Research  
Mass Spectrometry Applications by LC-MS/MS

## Features and Benefits:

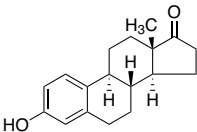
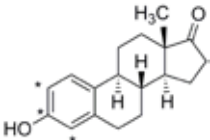
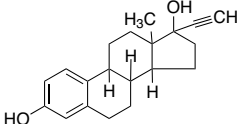
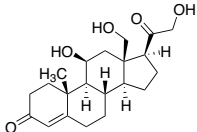
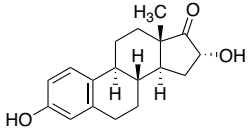
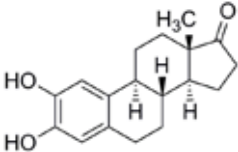
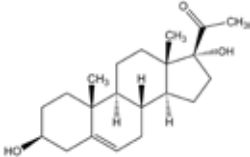
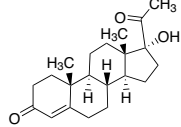
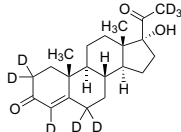
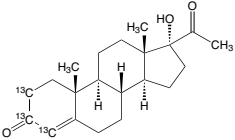
- Individual levels ranging from 4 to 2,000 ng/dL for testosterone and 10 to 1,000 pg/mL for estrogens
- Ready-to-use as linearity standards or for calibration verification
- CRM grade – High accuracy of concentration
- Ready-to-use – Reduces labor & cost eliminates preparation step as source of error
- Matrix-matched format – Compensates for matrix effects
- Stability pre-determined – Supported with real-time data
- Serum blank and <sup>13</sup>C- or deuterium-labeled internal standards are also available

For more information, please visit:  
[SigmaAldrich.com/Testosterone-CRM](http://SigmaAldrich.com/Testosterone-CRM)

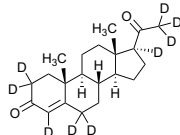
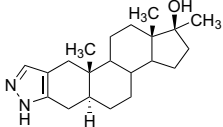
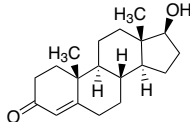
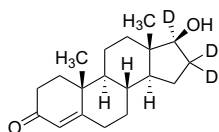
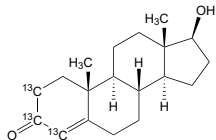
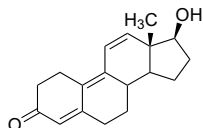


Product Name	ID	Cat. No.	Size	Structure
Cortisol-D <sub>4</sub> (9,11,12,12-D <sub>4</sub> )	73565-87-4 C <sub>21</sub> H <sub>26</sub> D <sub>4</sub> O <sub>5</sub> M.W. 366.48	<b>C-113-1ML</b>	100 µg/mL 1 mL Methanol	
Cortisone	53-06-5 C <sub>21</sub> H <sub>28</sub> O <sub>5</sub> M.W. 360.44	<b>C-130-1ML</b>	100 µg/mL 1 mL Methanol	
Dehydroepiandrosterone (DHEA)	53-43-0 C <sub>19</sub> H <sub>28</sub> O <sub>2</sub> M.W. 288.42	<b>D-063-1ML</b>	1.0 mg/mL 1 mL Methanol	
Dehydroepiandrosterone-D <sub>5</sub> (DHEA-D <sub>5</sub> ) (2,2,3,4,4-D <sub>5</sub> )	97453-25-3 C <sub>19</sub> H <sub>23</sub> D <sub>5</sub> O <sub>2</sub> M.W. 293.46	<b>D-064-1ML</b>	100 µg/mL 1 mL Methanol	
Dehydroepiandrosterone 3-sulfate sodium salt (DHEAS)	1099-87-2 C <sub>19</sub> H <sub>27</sub> NaO <sub>5</sub> S M.W. 390.47	<b>D-065-1ML</b>	1.0 mg/mL 1 mL Methanol ( <i>as free sulphate</i> )	
Dehydroepiandrosterone-D <sub>5</sub> -3-sulfate sodium salt (DHEAS-D <sub>5</sub> ) (2,2,3,4,4,-D <sub>5</sub> )	 C <sub>19</sub> D <sub>5</sub> H <sub>22</sub> NaO <sub>5</sub> S M.W. 395.50	<b>D-066-1ML</b>	100 µg/mL 1 mL Methanol ( <i>as free sulphate</i> )	
11-Deoxycorticosterone	64-85-7 C <sub>21</sub> H <sub>30</sub> O <sub>3</sub> M.W. 330.46	<b>D-105-1ML</b>	100 µg/mL 1 mL Methanol	
11-Deoxycortisol	152-58-9 C <sub>21</sub> H <sub>30</sub> O <sub>4</sub> M.W. 346.46	<b>D-061-1ML</b>	1.0 mg/mL 1 mL Methanol	
11-Deoxycortisol-D <sub>5</sub> (2,2,4,6,6-D <sub>5</sub> )	1258063-56-7 C <sub>21</sub> D <sub>5</sub> H <sub>25</sub> O <sub>4</sub> M.W. 351.49	<b>D-078-1ML</b>	100 µg/mL 1 mL Methanol	
21-Deoxycortisol	641-77-0 C <sub>21</sub> H <sub>30</sub> O <sub>4</sub> M.W. 346.46	<b>D-062-1ML</b>	100 µg/mL 1 mL Methanol	
21-Deoxycortisol-D <sub>8</sub> (2,2,4,6,6,21,21,21-D <sub>8</sub> )	 C <sub>21</sub> H <sub>22</sub> D <sub>8</sub> O <sub>4</sub> M.W. 354.51	<b>D-076-1ML</b>	100 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
21-Deoxycortisone	1882-82-2 C <sub>21</sub> H <sub>28</sub> O <sub>4</sub> M.W. 344.44	D-123-1ML	100 µg/mL 1 mL Methanol	
Dexamethasone	50-02-2 C <sub>22</sub> H <sub>29</sub> FO <sub>5</sub> M.W. 392.46	D-085-1ML	1.0 mg/mL 1 mL Methanol	
5α-Dihydrotestosterone (DHT)	521-18-6 C <sub>19</sub> H <sub>30</sub> O <sub>2</sub> M.W. 290.44	D-073-1ML	1.0 mg/mL 1 mL Methanol	
5α-Dihydrotestosterone-D <sub>3</sub>	79037-34-6 C <sub>19</sub> H <sub>27</sub> D <sub>3</sub> O <sub>2</sub> M.W. 293.46	D-146-1ML	10 µg/mL 1 mL Methanol	
	79037-34-6 C <sub>19</sub> H <sub>27</sub> D <sub>3</sub> O <sub>2</sub> M.W. 293.46	D-077-1ML	100 µg/mL 1 mL Methanol	
Epitestosterone	481-30-1 C <sub>19</sub> H <sub>28</sub> O <sub>2</sub> M.W. 288.42	E-058-1ML	1.0 mg/mL 1 mL Acetonitrile	
17β-Estradiol	50-28-2 C <sub>18</sub> H <sub>24</sub> O <sub>2</sub> M.W. 272.38	E-060-1ML	1.0 mg/mL 1 mL Acetonitrile	
17β-Estradiol-D <sub>5</sub>	221093-45-4 C <sub>18</sub> H <sub>19</sub> D <sub>5</sub> O <sub>2</sub> M.W. 277.41	E-061-1ML	100 µg/mL 1 mL Acetonitrile	
17β-Estradiol-2,3,4- <sup>13</sup> C <sub>3</sub>	1261254-48-1 <sup>13</sup> C <sub>3</sub> C <sub>15</sub> H <sub>24</sub> O <sub>2</sub> M.W. 275.36	E-117-1ML	10 µg/mL 1 mL Acetonitrile	
	1261254-48-1 <sup>13</sup> C <sub>3</sub> C <sub>15</sub> H <sub>24</sub> O <sub>2</sub> M.W. 275.36	E-073-1ML	100 µg/mL 1 mL Acetonitrile	
Estriol	50-27-1 C <sub>18</sub> H <sub>24</sub> O <sub>3</sub> M.W. 288.38	E-074-1ML	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Estrone	53-16-7 C <sub>18</sub> H <sub>22</sub> O <sub>2</sub> M.W. 270.37	<b>E-075-1ML</b>	1.0 mg/mL 1 mL Methanol	
Estrone-2,3,4- <sup>13</sup> C <sub>3</sub>	1241684-29-6 <sup>13</sup> C <sub>3</sub> C <sub>15</sub> H <sub>22</sub> O <sub>2</sub> M.W. 273.34	<b>E-118-1ML</b>	10 µg/mL 1 mL Methanol	
	1241684-29-6 <sup>13</sup> C <sub>3</sub> C <sub>15</sub> H <sub>22</sub> O <sub>2</sub> M.W. 273.34	<b>E-108-1ML</b>	100 µg/mL 1 mL Methanol	
17α-Ethynylestradiol	57-63-6 C <sub>20</sub> H <sub>24</sub> O <sub>2</sub> M.W. 296.40	<b>E-076-1ML</b>	1.0 mg/mL 1 mL Methanol	
18-Hydroxycorticosterone	561-65-9 C <sub>21</sub> H <sub>30</sub> O <sub>5</sub> M.W. 362.46	<b>H-106-1ML</b>	100 µg/mL 1mL 90:10 Acetonitrile:Water	
16α-Hydroxyestrone	566-76-7 C <sub>18</sub> H <sub>22</sub> O <sub>3</sub> M.W. 286.37	<b>H-126-1ML</b>	100 µg/mL 1 mL Methanol	
2-Hydroxyestrone	362-06-1 C <sub>18</sub> H <sub>22</sub> O <sub>3</sub> M.W. 286.37	<b>H-127-1ML</b>	100 µg/mL 1 mL Acetonitrile	
17α-Hydroxypregnenolone	387-79-1 C <sub>21</sub> H <sub>32</sub> O <sub>3</sub> M.W. 332.48	<b>H-105-1ML</b>	100 µg/mL 1 mL Methanol	
17α-Hydroxyprogesterone	68-96-2 C <sub>21</sub> H <sub>30</sub> O <sub>3</sub> M.W. 330.46	<b>H-085-1ML</b>	1.0 mg/mL 1 mL Methanol	
17α-Hydroxyprogesterone-D <sub>8</sub> (2,2,4,6,6,21,21,21-D <sub>8</sub> )	850023-80-2 C <sub>21</sub> H <sub>22</sub> D <sub>8</sub> O <sub>3</sub> M.W. 338.51	<b>H-096-1ML</b>	100 µg/mL 1 mL Methanol	
17α-Hydroxyprogesterone-2,3,4- <sup>13</sup> C <sub>3</sub>	1356154-92-1 <sup>13</sup> C <sub>3</sub> C <sub>18</sub> H <sub>30</sub> O <sub>3</sub> M.W. 333.44	<b>H-100-1ML</b>	100 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
3'-Hydroxystanozolol-D <sub>3</sub>	170082-17-4 C <sub>21</sub> H <sub>29</sub> D <sub>3</sub> N <sub>2</sub> O <sub>2</sub> M.W. 347.47	S-070-5MG	5 mg	
6β-Hydroxytestosterone	62-99-7 C <sub>19</sub> H <sub>28</sub> O <sub>3</sub> M.W. 304.42	H-059-1ML	100 µg/mL 1 mL Methanol	
6β-Hydroxytestosterone-D <sub>3</sub>	C <sub>19</sub> H <sub>25</sub> D <sub>3</sub> O <sub>3</sub> M.W. 307.44	T-034-1ML	100 µg/mL 1 mL Methanol	
Methandienone	72-63-9 C <sub>20</sub> H <sub>28</sub> O <sub>2</sub> M.W. 300.44	M-912-1ML	1.0 mg/mL 1 mL 1,2-Dimethoxyethane	
17α-Methyltestosterone	58-18-4 C <sub>20</sub> H <sub>30</sub> O <sub>2</sub> M.W. 302.45	M-906-1ML	1.0 mg/mL 1 mL 1,2-Dimethoxyethane	
Nandrolone	434-22-0 C <sub>18</sub> H <sub>26</sub> O <sub>2</sub> M.W. 274.40	N-050-1ML	1.0 mg/mL 1 mL Acetonitrile	
Prednisolone	50-24-8 C <sub>21</sub> H <sub>26</sub> O <sub>5</sub> M.W. 360.44	P-121-1ML	100 µg/mL 1 mL Acetonitrile	
Prednisone	53-03-2 C <sub>21</sub> H <sub>26</sub> O <sub>5</sub> M.W. 358.43	P-122-1ML	100 µg/mL 1 mL Acetonitrile	
Pregnenolone	145-13-1 C <sub>21</sub> H <sub>32</sub> O <sub>2</sub> M.W. 316.48	P-104-1ML	100 µg/mL 1 mL Acetonitrile	
Pregnenolone- <sup>13</sup> C <sub>2</sub> ,D <sub>2</sub>	C <sub>19</sub> <sup>13</sup> C <sub>2</sub> H <sub>30</sub> D <sub>2</sub> O <sub>2</sub> M.W. 320.48	P-109-1ML	100 µg/mL 1 mL Acetonitrile	
Progesterone	57-83-0 C <sub>21</sub> H <sub>30</sub> O <sub>2</sub> M.W. 314.46	P-069-1ML	1.0 mg/mL 1 mL Acetonitrile	

Product Name	ID	Cat. No.	Size	Structure
Progesterone-D <sub>9</sub>	15775-74-3 C <sub>21</sub> H <sub>21</sub> D <sub>9</sub> O <sub>2</sub> M.W. 323.52	P-070-1ML	100 µg/mL 1 mL Acetonitrile	
Stanozolol	10418-03-8 C <sub>21</sub> H <sub>32</sub> N <sub>2</sub> O M.W. 328.49	S-906-1ML	1.0 mg/mL 1 mL 1,2-Dimethoxyethane	
Testosterone	58-22-0 C <sub>19</sub> H <sub>28</sub> O <sub>2</sub> M.W. 288.42	T-037-1ML	1.0 mg/mL 1 mL Acetonitrile	
Testosterone-D <sub>3</sub> (16,16 17-D <sub>3</sub> )	77546-39-5 C <sub>19</sub> D <sub>3</sub> H <sub>25</sub> O <sub>2</sub> M.W. 291.44	T-046-1ML	100 µg/mL 1 mL Acetonitrile	
Testosterone-2,3,4- <sup>13</sup> C <sub>3</sub>	327048-83-9 <sup>13</sup> C <sub>3</sub> C <sub>16</sub> H <sub>28</sub> O <sub>2</sub> M.W. 291.40	T-095-1ML	10 µg/mL 1 mL Acetonitrile	
	327048-83-9 <sup>13</sup> C <sub>3</sub> C <sub>16</sub> H <sub>28</sub> O <sub>2</sub> M.W. 291.40	T-070-1ML	100 µg/mL 1 mL Acetonitrile	
Trenbolone	10161-33-8 C <sub>18</sub> H <sub>22</sub> O <sub>2</sub> M.W. 270.37	T-043-1ML	1.0 mg/mL 1 mL Acetonitrile	



# Quality Means Trust

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Ideal synthetic matrix for samples, standards, controls and calibrants in ELISA and LC/MS based applications.

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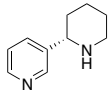
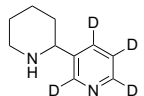
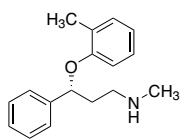
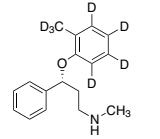
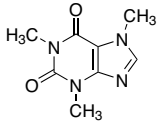
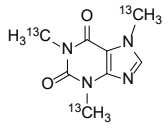
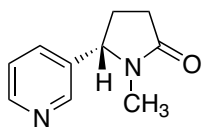
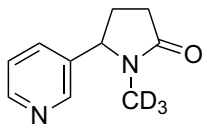
For more information on our synthetic matrices, visit:  
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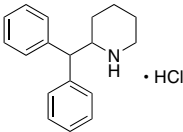
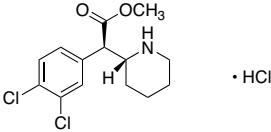
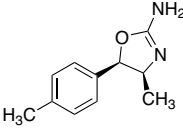
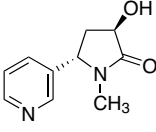
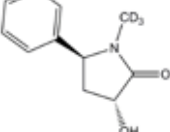
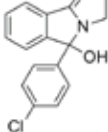
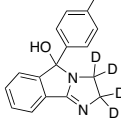
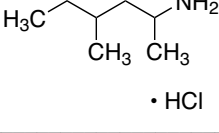
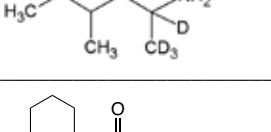
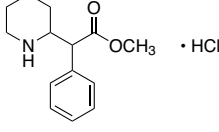


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Lab & Production Materials

## Stimulants (Non-Amphetamine)

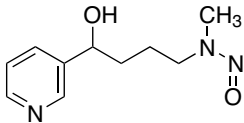
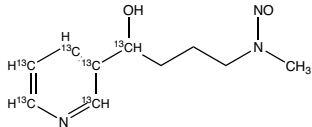
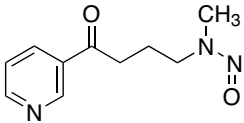
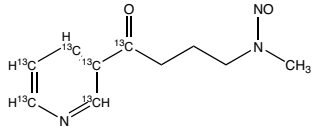
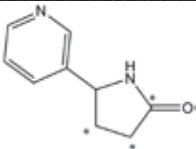
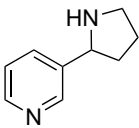
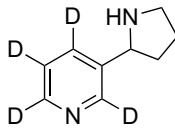
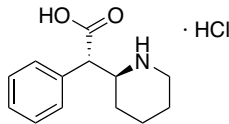
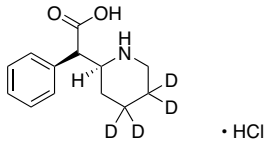
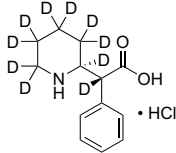
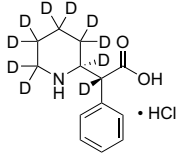
Stimulants such as nicotine, caffeine and their derivatives promote increased wakefulness, endurance, and alertness. Side effects of some stimulants can include anxiety, insomnia, fatigue, and in some instances, neurotoxicity. With over 1 billion estimated cigarette smokers, nicotine is among the most widely used stimulants in the world. Recently, electronic nicotine inhalers known as e-cigarettes have expanded in popularity across Europe and North America as an alternative to traditional cigarettes.

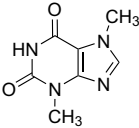
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(+)-Anabasine HCl	53912-89-3 C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> ·HCl M.W. 198.69	A-097-1ML	1.0 mg/mL (as free base) 1 mL Methanol	 · HCl
Anabasine-D <sub>4</sub> HCl	C <sub>10</sub> H <sub>10</sub> D <sub>4</sub> N <sub>2</sub> ·HCl M.W. 202.72	A-100-1ML	100 µg/mL (as free base) 1 mL Methanol	 HCl
Atomoxetine HCl	82248-59-7 C <sub>17</sub> H <sub>21</sub> NO·HCl M.W. 291.82	A-095-1ML	1.0 mg/mL (as free base) 1 mL Methanol	 · HCl
Atomoxetine-D <sub>7</sub> HCl	1044940-60-4 C <sub>17</sub> H <sub>14</sub> D <sub>7</sub> NO·HCl M.W. 298.86	A-093-1ML	100 µg/mL (as free base) 1 mL Methanol	 · HCl
Caffeine	58-08-2 C <sub>8</sub> H <sub>10</sub> N <sub>4</sub> O <sub>2</sub> M.W. 194.19	C-051-1ML	1.0 mg/mL 1 mL Methanol	
Caffeine- <sup>13</sup> C <sub>3</sub>	78072-66-9 <sup>13</sup> C <sub>3</sub> C <sub>5</sub> H <sub>10</sub> N <sub>4</sub> O <sub>2</sub> M.W. 197.17	C-082-1ML	1.0 mg/mL 1 mL Methanol	
(-)-Cotinine	486-56-6 C <sub>10</sub> H <sub>12</sub> N <sub>2</sub> O M.W. 176.22	C-016-1ML	1.0 mg/mL 1 mL Methanol	
(±)-Cotinine-D <sub>3</sub>	110952-70-0 C <sub>10</sub> H <sub>9</sub> D <sub>3</sub> N <sub>2</sub> O M.W. 179.23	C-017-1ML	100 µg/mL 1 mL Methanol	
	110952-70-0 C <sub>10</sub> H <sub>9</sub> D <sub>3</sub> N <sub>2</sub> O M.W. 179.23	C-035-1ML	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Desoxypipradrol HCl (2-DPMP HCl)	5807-81-8 C <sub>18</sub> H <sub>21</sub> N·HCl M.W. 287.83	<b>D-082-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
(±)-threo-3,4-Dichloromethylphenidate HCl	214149-42-5 C <sub>14</sub> H <sub>17</sub> Cl <sub>2</sub> NO <sub>2</sub> ·HCl M.W. 338.66	<b>D-140-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
(±)-cis-4,4'-Dimethylaminorex	1632031-39-0 C <sub>11</sub> H <sub>14</sub> N <sub>2</sub> O M.W. 190.24	<b>D-141-1ML</b>	1.0 mg/mL 1 mL 1% 1M HCl in Methanol	
trans-3'-Hydroxycotinine	34834-67-8 C <sub>10</sub> H <sub>12</sub> N <sub>2</sub> O <sub>2</sub> M.W. 192.21	<b>H-101-1ML</b>	1.0 mg/mL 1 mL Methanol	
trans-3'-Hydroxycotinine-D <sub>3</sub>	159956-78-2 C <sub>10</sub> H <sub>9</sub> D <sub>3</sub> N <sub>2</sub> O <sub>2</sub> M.W. 195.23	<b>H-108-1ML</b>	100 µg/mL 1 mL Methanol	
Mazindol	22232-71-9 C <sub>16</sub> H <sub>13</sub> ClN <sub>2</sub> O M.W. 284.74	<b>M-207-1ML</b>	1.0 mg/mL 1 mL Methanol	
Mazindol-D <sub>4</sub>	C <sub>16</sub> H <sub>9</sub> D <sub>4</sub> ClN <sub>2</sub> O M.W. 288.76	<b>M-208-1ML</b>	100 µg/mL 1 mL Methanol	
Methylhexanamine HCl (DMAA HCl)	13803-74-2 C <sub>7</sub> H <sub>17</sub> N·HCl M.W. 151.68	<b>M-157-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
Methylhexanamine-D <sub>4</sub> HCl (DMAA-D <sub>4</sub> HCl)	C <sub>7</sub> H <sub>13</sub> D <sub>4</sub> N·HCl M.W. 155.70	<b>M-174-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
Methylphenidate HCl (Racemic mixture)	298-59-9 C <sub>14</sub> H <sub>19</sub> NO <sub>2</sub> ·HCl M.W. 269.77	<b>M-083-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	



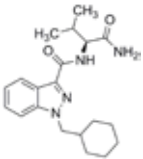
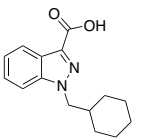
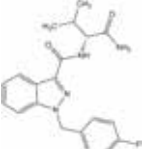
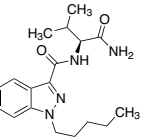
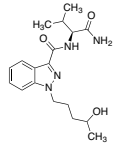
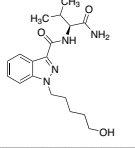
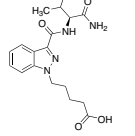
Product Name	ID	Cat. No.	Size	Structure
(±)-threo-Methylphenidate-D <sub>4</sub> HCl	C <sub>14</sub> H <sub>16</sub> D <sub>4</sub> NO <sub>2</sub> ·HCl M.W. 274.80	<b>M-185-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Methylphenidate-D <sub>9</sub> HCl (Racemic mixture of erythro and threo isomers)	1219804-02-0 C <sub>14</sub> H <sub>10</sub> D <sub>9</sub> NO <sub>2</sub> ·HCl M.W. 278.82	<b>M-127-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	
Modafinil	68693-11-8 C <sub>15</sub> H <sub>15</sub> NO <sub>2</sub> S M.W. 273.35	<b>M-084-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Modafinil-D <sub>10</sub>	1219804-30-4 C <sub>15</sub> D <sub>10</sub> H <sub>5</sub> NO <sub>2</sub> S M.W. 283.41	<b>M-103-1ML</b>	100 µg/mL 1 mL Acetonitrile	
Modafinil acid	63547-24-0 C <sub>15</sub> H <sub>14</sub> O <sub>3</sub> S M.W. 274.33	<b>M-142-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
(S)-(-)-Nicotine	54-11-5 C <sub>10</sub> H <sub>14</sub> N <sub>2</sub> M.W. 162.23	<b>N-008-1ML</b>	1.0 mg/mL 1 mL Methanol	
(±)-Nicotine-D <sub>4</sub>	350818-69-8 C <sub>10</sub> H <sub>10</sub> D <sub>4</sub> N <sub>2</sub> M.W. 166.26	<b>N-048-1ML</b>	100 µg/mL 1 mL Acetonitrile	
(S)-N-Nitrosoanabasine (NAB)	1133-64-8 C <sub>10</sub> H <sub>13</sub> N <sub>3</sub> O M.W. 191.23	<b>N-077-1ML</b>	1.0 mg/mL 1 mL Methanol	
(S)-N-Nitrosoanatabine	71267-22-6 C <sub>10</sub> H <sub>11</sub> N <sub>3</sub> O M.W. 189.21	<b>N-078-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
(±)-N'-Nitrosoornicotine (NNN)	16543-55-8 C <sub>9</sub> H <sub>11</sub> N <sub>3</sub> O M.W. 177.20	<b>N-075-1ML</b>	1.0 mg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanol (NNAL)	76014-81-8 C <sub>10</sub> H <sub>15</sub> N <sub>3</sub> O <sub>2</sub> M.W. 209.25	N-074-1ML	1.0 mg/mL 1 mL Methanol	
4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanol- <sup>13</sup> C <sub>6</sub> (NNAL- <sup>13</sup> C <sub>6</sub> )	1189877-28-8 C <sub>4</sub> <sup>13</sup> C <sub>6</sub> H <sub>15</sub> N <sub>3</sub> O <sub>2</sub> M.W. 215.20	N-091-1ML	100 µg/mL 1 mL Methanol	
4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK)	64091-91-4 C <sub>10</sub> H <sub>13</sub> N <sub>3</sub> O <sub>2</sub> M.W. 207.23	N-076-1ML	1.0 mg/mL 1 mL Methanol	
4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone- <sup>13</sup> C <sub>6</sub> (NNK- <sup>13</sup> C <sub>6</sub> )	1346600-19-8 C <sub>4</sub> <sup>13</sup> C <sub>6</sub> H <sub>13</sub> N <sub>3</sub> O <sub>2</sub> M.W. 213.19	N-092-1ML	100 µg/mL 1 mL Methanol	
(R,S)-Norcotinine- <sup>13</sup> C <sub>3</sub>	1020719-70-3 <sup>13</sup> C <sub>3</sub> C <sub>6</sub> H <sub>10</sub> N <sub>2</sub> O M.W. 165.17	N-095-1ML	100 µg/mL 1 mL Methanol	
(±)-Nornicotine	5746-86-1 C <sub>9</sub> H <sub>12</sub> N <sub>2</sub> M.W. 148.21	N-071-1ML	1.0 mg/mL 1 mL Methanol	
(±)-Nornicotine-D <sub>4</sub>	66148-18-3 C <sub>9</sub> H <sub>8</sub> D <sub>4</sub> N <sub>2</sub> M.W. 152.23	N-072-1ML	100 µg/mL 1 mL Methanol	
Ritalinic acid HCl	19395-40-5 C <sub>13</sub> H <sub>17</sub> NO <sub>2</sub> ·HCl M.W. 255.74	R-011-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
(±)-threo-Ritalinic acid-D <sub>4</sub> HCl	C <sub>13</sub> H <sub>13</sub> D <sub>4</sub> NO <sub>2</sub> ·HCl M.W. 259.77	R-025-1ML	100 µg/mL (as free base) 1 mL Methanol	
(±)-threo-Ritalinic acid-D <sub>10</sub> HCl	C <sub>13</sub> H <sub>7</sub> D <sub>10</sub> NO <sub>2</sub> ·HCl M.W. 265.80	R-014-1ML	100 µg/mL (as free base) 1 mL Methanol	
	C <sub>13</sub> H <sub>7</sub> D <sub>10</sub> NO <sub>2</sub> ·HCl M.W. 265.80	R-027-1ML	1.0 mg/mL (as free base) 1 mL Methanol	

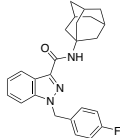
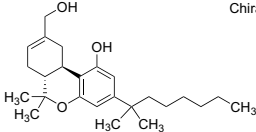
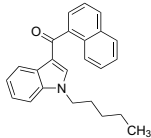
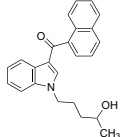
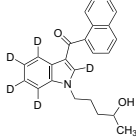
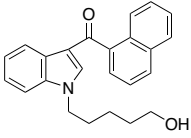
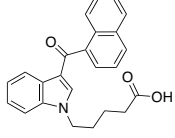
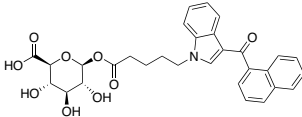
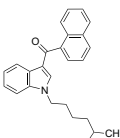
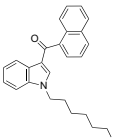
Product Name	ID	Cat. No.	Size	Structure
Theobromine	83-67-0 C <sub>7</sub> H <sub>8</sub> N <sub>4</sub> O <sub>2</sub> M.W. 180.16	T-013-1ML	100 µg/mL 2 mL Methanol	 <chem>CN1C=NC2=C1C(=O)N(C)C2=O</chem>

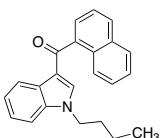
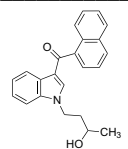
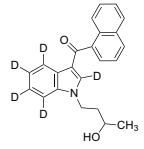
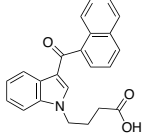
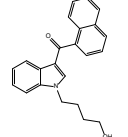
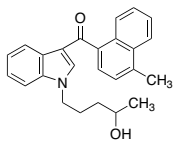
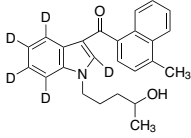
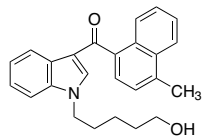
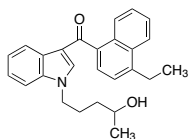
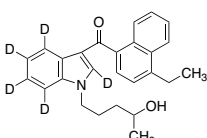
## Synthetic Cannabinoids

Synthetic cannabinoids mimic the effect of natural cannabinoids found in cannabis plants, such as  $\Delta^9$ -tetrahydrocannabinol (THC), and are designed specifically to circumvent drug control legislation. These drugs are typically smoked by pipe, rolled in cigarette paper, ingested, or inhaled and can produce intense psychological and physiological effects including auditory and visual hallucinations, anxiety, and euphoria. They are associated with an increased risk of mortality as a result of the higher affinity for CB<sub>1</sub> and CB<sub>2</sub> cannabinoid receptors, and the longer-lasting and more adverse effects of synthetic cannabinoids compared to marijuana. Synthetic cannabinoids appeared for the first time in the European market in 2004 and soon started spreading worldwide under different brand names such as Spice, K2, K3, Smoke. Within the last decade, synthetic cannabinoids have grown to be one of the most widely abused drug classes worldwide, including some of the most routinely tested and newly appearing synthetic cannabinoids such as JWH-018, JWH-073, AM-2201, MMB-FUBINACA (FUB-AMB), 5F-MDMB-PINACA, ADB-FUBINACA, MMB-CHMICA, AB-FUBINACA. Synthetic cannabinoids are routinely analyzed using GC/MS and LC/MS methods in forensic and clinical toxicology applications including postmortem, urine, and confirmatory drug testing.

Product Name	ID	Cat. No.	Size	Structure
AB-CHMINACA	1185887-21-1 C <sub>20</sub> H <sub>28</sub> N <sub>4</sub> O <sub>2</sub> M.W. 356.46	<b>S-108-1ML</b>	100 µg/mL 1 mL Methanol	
AB-CHMINACA metabolite M <sub>4</sub>	1271630-11-5 C <sub>15</sub> H <sub>18</sub> N <sub>2</sub> O <sub>2</sub> M.W. 258.32	<b>S-107-1ML</b>	100 µg/mL 1 mL Acetonitrile	
AB-FUBINACA	1185282-01-2 C <sub>20</sub> H <sub>21</sub> FN <sub>4</sub> O <sub>2</sub> M.W. 368.40	<b>S-065-1ML</b>	100 µg/mL 1 mL Methanol	
AB-PINACA	1445752-09-9 C <sub>18</sub> H <sub>26</sub> N <sub>4</sub> O <sub>2</sub> M.W. 330.43	<b>S-082-1ML</b>	100 µg/mL 1 mL Methanol	
AB-PINACA 4-Hydroxy-pentyl metabolite	C <sub>18</sub> H <sub>26</sub> N <sub>4</sub> O <sub>3</sub> M.W. 346.20	<b>S-083-1ML</b>	100 µg/mL 1 mL Methanol	
AB-PINACA 5-Hydroxy-pentyl metabolite	C <sub>18</sub> H <sub>26</sub> N <sub>4</sub> O <sub>3</sub> M.W. 346.42	<b>S-084-1ML</b>	100 µg/mL 1 mL Methanol	
AB-PINACA 5-Pentanoic acid metabolite	1630022-93-3 C <sub>18</sub> H <sub>24</sub> N <sub>4</sub> O <sub>4</sub> M.W. 360.41	<b>S-085-1ML</b>	100 µg/mL 1 mL Methanol	

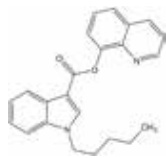
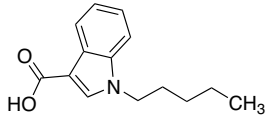
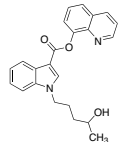
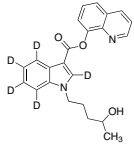
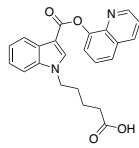
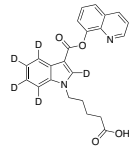
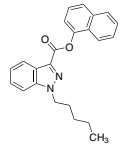
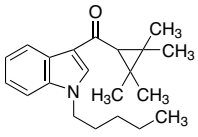
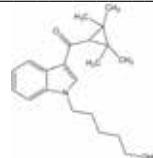
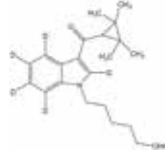
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ADB-FUBINACA	1185282-00-1 C <sub>21</sub> H <sub>23</sub> FN <sub>4</sub> O <sub>2</sub> M.W. 382.43	S-110-1ML	100 µg/mL 1 mL Methanol	
AM2201 4-Hydroxypentyl metabolite	1427521-34-3 C <sub>24</sub> H <sub>22</sub> FNO <sub>2</sub> M.W. 375.44	S-059-1ML	100 µg/mL 1 mL Methanol	
AM2201 4-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	C <sub>24</sub> H <sub>17</sub> D <sub>5</sub> FNO <sub>2</sub> M.W. 380.47	S-058-1ML	100 µg/mL 1 mL Methanol	
APINACA (AKB-48)	1345973-53-6 C <sub>23</sub> H <sub>31</sub> N <sub>3</sub> O M.W. 365.51	S-086-1ML	100 µg/mL 1 mL Methanol	
APINACA (AKB-48) 5-Hydroxypentyl metabolite	1778734-772 C <sub>23</sub> H <sub>31</sub> N <sub>3</sub> O <sub>2</sub> M.W. 381.51	S-087-1ML	100 µg/mL 1 mL Methanol	
APINACA (AKB-48) 5-Hydroxypentyl metabolite-D <sub>4</sub>	C <sub>23</sub> H <sub>27</sub> D <sub>4</sub> N <sub>3</sub> O <sub>2</sub> M.W. 385.54	S-088-1ML	100 µg/mL 1 mL Methanol	
BB-22	1400742-42-8 C <sub>25</sub> H <sub>24</sub> N <sub>2</sub> O <sub>2</sub> M.W. 384.47	S-104-1ML	100 µg/mL 1 mL Acetonitrile	
BB-22 3-carboxyindole metabolite	858515-71-6 C <sub>16</sub> H <sub>19</sub> NO <sub>2</sub> M.W. 257.33	S-103-1ML	100 µg/mL 1 mL Acetonitrile	
5-Fluoro PB-22	1400742-41-7 C <sub>23</sub> H <sub>21</sub> FN <sub>2</sub> O <sub>2</sub> M.W. 376.42	S-075-1ML	100 µg/mL 1 mL Acetonitrile	
5-Fluoro PB-22 3-carboxyindole metabolite	1432794-98-3 C <sub>14</sub> H <sub>16</sub> FNO <sub>2</sub> M.W. 249.28	S-101-1ML	100 µg/mL 1 mL Acetonitrile	

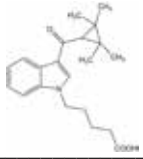
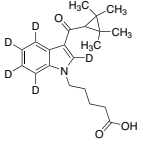
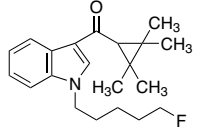
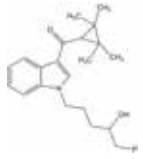
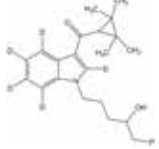
Product Name	ID	Cat. No.	Size	Structure
FUB-APINACA	$C_{25}H_{26}FN_3O$ M.W. 403.49	<b>S-112-1ML</b>	100 µg/mL 1 mL Methanol	
HU-210	112830-95-2 $C_{25}H_{38}O_3$ M.W. 386.57	<b>S-024-1ML</b>	100 µg/mL 1 mL Methanol	 Chiral
JWH-018	209414-07-3 $C_{24}H_{23}NO$ M.W. 341.45	<b>S-025-1ML</b>	100 µg/mL 1 mL Methanol	
JWH-018 4-Hydroxypentyl metabolite	1320363-47-0 $C_{24}H_{23}NO_2$ M.W. 357.44	<b>S-035-1ML</b>	100 µg/mL 1 mL Methanol	
JWH-018 N-(4-hydroxypentyl) metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	$C_{24}H_{18}D_5NO_2$ M.W. 362.48	<b>S-039-1ML</b>	100 µg/mL 1 mL Methanol	
JWH-018 5-Hydroxypentyl metabolite	335161-21-2 $C_{24}H_{23}NO_2$ M.W. 357.44	<b>S-054-1ML</b>	100 µg/mL 1 mL Methanol	
JWH-018 5-Pentanoic acid metabolite	$C_{24}H_{21}NO_3$ M.W. 371.43	<b>S-033-1ML</b>	100 µg/mL 1 mL Methanol	
JWH-018 5-Pentanoic acid β-D-glucuronide	1307803-54-8 $C_{30}H_{29}NO_9$ M.W. 547.55	<b>S-106-1ML</b>	100 µg/mL 1 mL Acetonitrile: Water (90:10)	
JWH-019 5-Hydroxyhexyl metabolite	1435934-47-6 $C_{25}H_{25}NO_2$ M.W. 371.47	<b>S-044-1ML</b>	100 µg/mL 1 mL Methanol	
JWH-019 6-Hydroxyhexyl metabolite	1435934-29-4 $C_{25}H_{25}NO_2$ M.W. 371.47	<b>S-043-1ML</b>	100 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
JWH-073	208987-48-8 C <sub>23</sub> H <sub>21</sub> NO M.W. 327.40	S-027-1ML	100 µg/mL 1 mL Acetonitrile	
JWH-073 3-Hydroxybutyl metabolite	1320363-48-1 C <sub>23</sub> H <sub>21</sub> NO <sub>2</sub> M.W. 343.42	S-037-1ML	100 µg/mL 1 mL Methanol	
JWH-073 N-(3-Hydroxybutyl) metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	C <sub>23</sub> H <sub>16</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 348.45	S-040-1ML	100 µg/mL 1 mL Methanol	
JWH-073 4-Butanoic acid metabolite	1307803-52-6 C <sub>23</sub> H <sub>19</sub> NO <sub>3</sub> M.W. 357.40	S-036-1ML	100 µg/mL 1 mL Methanol	
JWH-073 4-Hydroxybutyl metabolite	335161-14-3 C <sub>23</sub> H <sub>21</sub> NO <sub>2</sub> M.W. 343.42	S-053-1ML	100 µg/mL 1 mL Methanol	
JWH-122 4-Hydroxypentyl metabolite	C <sub>25</sub> H <sub>25</sub> NO <sub>2</sub> M.W. 371.47	S-049-1ML	100 µg/mL 1 mL Methanol	
JWH-122 4-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	1781417-73-9 C <sub>25</sub> H <sub>20</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 376.50	S-056-1ML	100 µg/mL 1 mL Methanol	
JWH-122 5-Hydroxypentyl metabolite	1379604-68-8 C <sub>25</sub> H <sub>25</sub> NO <sub>2</sub> M.W. 371.47	S-050-1ML	100 µg/mL 1 mL Methanol	
JWH-210 4-Hydroxypentyl metabolite	C <sub>26</sub> H <sub>27</sub> NO <sub>2</sub> M.W. 385.50	S-052-1ML	100 µg/mL 1 mL Methanol	
JWH-210 4-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	C <sub>26</sub> H <sub>22</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 390.53	S-057-1ML	100 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
JWH-210 5-Hydroxypentyl metabolite	$C_{26}H_{27}NO_2$ M.W. 385.50	<b>S-051-1ML</b>	100 µg/mL 1 mL Methanol	
JWH-250 4-Hydroxypentyl metabolite	$C_{22}H_{25}NO_3$ M.W. 351.44	<b>S-046-1ML</b>	100 µg/mL 1 mL Methanol	
JWH-250 4-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	$C_{22}H_{20}D_5NO_3$ M.W. 356.47	<b>S-055-1ML</b>	100 µg/mL 1 mL Methanol	
JWH-250 5-Hydroxypentyl metabolite	1427325-83-4 $C_{22}H_{25}NO_3$ M.W. 351.44	<b>S-045-1ML</b>	100 µg/mL 1 mL Methanol	
MAB-CHMINACA	1863065-92-2 $C_{21}H_{30}N_4O_2$ M.W. 370.49	<b>S-109-1ML</b>	100 µg/mL 1 mL Methanol	
MAM2201	1354631-24-5 $C_{25}H_{24}FNO$ M.W. 373.47	<b>S-091-1ML</b>	100 µg/mL 1 mL Methanol	
MAM2201 4-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	$C_{25}H_{19}D_5FNO_2$ M.W. 394.50	<b>S-093-1ML</b>	100 µg/mL 1 mL Methanol	
MAM2201 5-Pentanoic acid metabolite	1537889-09-0 $C_{25}H_{23}NO_3$ M.W. 385.46	<b>S-105-1ML</b>	100 µg/mL 1 mL Methanol	
MDMB-FUBINACA	1971007-93-8 $C_{22}H_{24}FN_3O_3$ M.W. 397.44	<b>S-117-1ML</b>	100 µg/mL 1 mL Acetonitrile	
MMB-CHMICA	1971007-94-9 $C_{22}H_{30}N_4O_3$ M.W. 370.49	<b>S-118-1ML</b>	100 µg/mL 1 mL Methanol	
MMB-FUBINACA	1971007-92-7 $C_{21}H_{22}FN_3O_3$ M.W. 383.42	<b>S-111-1ML</b>	100 µg/mL 1 mL Acetonitrile	

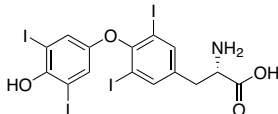
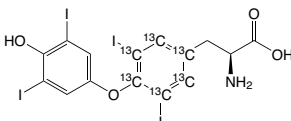
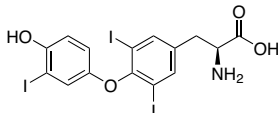
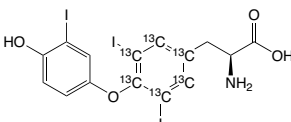
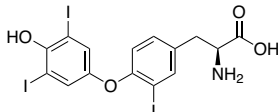
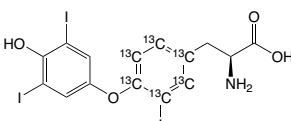


Product Name	ID	Cat. No.	Size	Structure
PB-22	1400742-17-7 C <sub>23</sub> H <sub>22</sub> N <sub>2</sub> O <sub>2</sub> M.W. 358.43	S-076-1ML	100 µg/mL 1 mL Acetonitrile	
PB-22 3-carboxyindole metabolite	727421-73-0 C <sub>14</sub> H <sub>17</sub> NO <sub>2</sub> M.W. 231.29	S-102-1ML	100 µg/mL 1 mL Acetonitrile	
PB-22 4-Hydroxypentyl metabolite	C <sub>23</sub> H <sub>22</sub> N <sub>2</sub> O <sub>3</sub> M.W. 374.43	S-094-1ML	100 µg/mL 1 mL Acetonitrile	
PB-22 4-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	C <sub>23</sub> H <sub>17</sub> D <sub>5</sub> N <sub>2</sub> O <sub>3</sub> M.W. 379.46	S-095-1ML	100 µg/mL 1 mL Acetonitrile	
PB-22 5-Pentanoic acid metabolite	C <sub>23</sub> H <sub>20</sub> N <sub>2</sub> O <sub>4</sub> M.W. 388.42	S-096-1ML	100 µg/mL 1 mL Acetonitrile	
PB-22 5-Pentanoic acid metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	C <sub>23</sub> H <sub>15</sub> D <sub>5</sub> N <sub>2</sub> O <sub>4</sub> M.W. 393.45	S-097-1ML	100 µg/mL 1 mL Acetonitrile	
SDB-005	C <sub>23</sub> H <sub>22</sub> N <sub>2</sub> O <sub>2</sub> M.W. 358.43	S-119-1ML	100 µg/mL 1 mL Acetonitrile	
UR-144	1199943-44-6 C <sub>21</sub> H <sub>29</sub> NO M.W. 311.46	S-062-1ML	100 µg/mL 1 mL Methanol	
UR-144 5-Hydroxypentyl metabolite	895155-95-0 C <sub>21</sub> H <sub>29</sub> NO <sub>2</sub> M.W. 327.46	S-077-1ML	100 µg/mL 1 mL Methanol	
UR-144 5-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	C <sub>21</sub> H <sub>24</sub> D <sub>5</sub> NO <sub>2</sub> M.W. 332.49	S-079-1ML	100 µg/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
UR-144 5-Pentanoic acid metabolite	1451369-33-7 $C_{21}H_{27}NO_3$ M.W. 341.44	<b>S-078-1ML</b>	100 µg/mL 1 mL Methanol	
UR-144 5-Pentanoic acid metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	$C_{21}H_{22}D_5NO_3$ M.W. 346.47	<b>S-090-1ML</b>	100 µg/mL 1 mL Methanol	
XLR-11	1364933-54-9 $C_{21}H_{28}FNO$ M.W. 329.45	<b>S-061-1ML</b>	100 µg/mL 1 mL Methanol	
XLR-11 4-Hydroxypentyl metabolite	1782099-36-8 $C_{21}H_{28}FNO_2$ M.W. 345.45	<b>S-080-1ML</b>	100 µg/mL 1 mL Methanol	
XLR-11 4-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	$C_{21}H_{23}D_5FNO_2$ M.W. 350.49	<b>S-081-1ML</b>	100 µg/mL 1 mL Methanol	

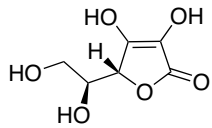
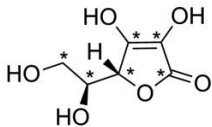
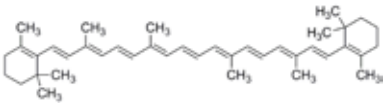
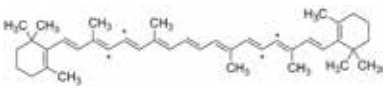
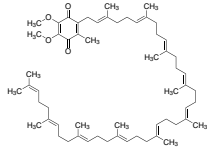
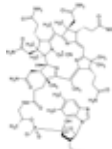
# Thyroid Hormones

Thyroid hormones are two hormones produced and released by the thyroid gland, namely triiodothyronine ( $T_3$ ) and thyroxine ( $T_4$ ). They are tyrosine-based hormones that are primarily responsible for regulation of metabolism. Thyroid hormones act on nearly every cell in the body regulating protein, fat, vitamin and carbohydrate metabolism, affecting how human cells use energetic compounds. The major form of thyroid hormone in the blood is  $T_4$ , which is enzymatically converted to the active  $T_3$  within cells. The amount of  $T_4$  produced by the thyroid gland is controlled by a protein hormone called thyroid stimulating hormone (TSH). Blood tests to measure TSH,  $T_4$ ,  $T_3$  and free  $T_4$  are widely used to diagnose thyroid hormone related disorders. Hypothyroidism (underactive thyroid) and hyperthyroidism (overactive thyroid) are the most common thyroid disorders. Common causes of these disorders include the immune system disorder Graves' disease, for hyperthyroidism, and Hashimoto's disease, for hypothyroidism. Further symptoms such as depression, loss of hair and neurodevelopmental disorders can be caused by excess or deficiency of thyroxine.

Product Name	ID	Cat. No.	Size	Structure
L-Thyroxine ( $T_4$ )	51-48-9 $C_{15}H_{11}I_4NO_4$ M.W. 776.87	<b>T-073-1ML</b>	100 $\mu$ g/mL 1 mL 0.1N $NH_3$ in Methanol	
L-Thyroxine- $^{13}C_6$ ( $T_4$ - $^{13}C_6$ )	720710-30-5 $^{13}C_6C_{15}H_{11}I_4NO_4$ M.W. 782.83	<b>T-076-1ML</b>	100 $\mu$ g/mL 1 mL 0.1N $NH_3$ in Methanol	
3,3',5-Triiodo-L-thyronine ( $T_3$ )	6893-02-3 $C_{15}H_{12}I_3NO_4$ M.W. 650.97	<b>T-074-1ML</b>	100 $\mu$ g/mL 1 mL 0.1N $NH_3$ in Methanol	
3,3',5-Triiodo-L-thyronine- $^{13}C_6$ ( $T_3$ - $^{13}C_6$ )	1213431-76-5 $^{13}C_6C_{15}H_{12}I_3NO_4$ M.W. 656.93	<b>T-077-1ML</b>	100 $\mu$ g/mL 1 mL 0.1N $NH_3$ in Methanol	
3,3',5'-Triiodo-L-thyronine (Reverse $T_3$ )	5817-39-0 $C_{15}H_{12}I_3NO_4$ M.W. 650.97	<b>T-075-1ML</b>	100 $\mu$ g/mL 1 mL 0.1N $NH_3$ in Methanol	
3,3',5'-Triiodo-L-thyronine- $^{13}C_6$ (reverse $T_3$ - $^{13}C_6$ )	1786403-77-7 $^{13}C_6C_{15}H_{12}I_3NO_4$ M.W. 656.93	<b>T-078-1ML</b>	100 $\mu$ g/mL 1 mL 0.1N $NH_3$ in Methanol	

## Vitamins

Vitamins including isoforms of A, B, C, D, E and K, as well as cofactors such as Coenzyme Q<sub>10</sub> play vital functions in cellular metabolism from lipid, hormone, and enzyme production to intra- and extracellular transport and gene expression. Deficiencies in vitamins can lead to the development of chronic diseases such as anemia, cardiovascular disease, and cancer. Clinical screening of vitamins or their metabolic analogs by HPLC or LC-MS/MS is routinely performed to assess potential vitamin deficiencies in neonates, pregnant women, and the elderly as well as among adult men and women. The US Food and Drug Administration (FDA) requires manufacturers of vitamin dietary supplements to establish an identity specification for each component used in the manufacturing of dietary supplements. The main methods currently used for vitamin dietary supplement testing include TLC, HPTLC, and HPLC. The use of LC-MS/MS methods for food and dietary supplement testing has increased due to its high sensitivity and throughput, reduction in sample treatment steps compared with other techniques such as GC/MS, and its lower limits of quantitation. The development of analytical methods for vitamins can be challenging due to the sensitivity many vitamins have to air, light and solution pH. Water-soluble vitamins such as riboflavin and vitamin B<sub>6</sub>, for example, degrade rapidly when exposed to light, and exhibit varying degrees of sensitivity to solution pH. These vitamin specific challenges, if unaddressed during method development, have the potential to reduce the accuracy and precision of the end use testing application.

Product Name	ID	Cat. No.	Size	Structure
L-Ascorbic Acid (Vitamin C)	50-81-7 C <sub>6</sub> H <sub>8</sub> O <sub>6</sub> M.W. 176.12	V-038-1ML	1.0 mg/mL 1 mL 50:50 Water:Acetonitrile	
L-Ascorbic Acid (Vitamin C)- <sup>13</sup> C <sub>6</sub>	1354064-87-1 <sup>13</sup> C <sub>6</sub> H <sub>8</sub> O <sub>6</sub> M.W. 182.08	V-047-1ML	500 µg/mL 1:1 Acetonitrile:Water	
β-Carotene	7235-40-7 C <sub>40</sub> H <sub>56</sub> M.W. 536.87	V-058-1ML	100 µg/mL 1 mL 70:30 THF:Ethanol with 0.1% BHT (w/v)	
β-Carotene (10,10',11, 11')- <sup>13</sup> C <sub>4</sub>	C <sub>36</sub> <sup>13</sup> C <sub>4</sub> H <sub>56</sub> M.W. 540.84	V-059-1ML	100 µg/mL 1 mL 70:30 THF:Ethanol with 0.1% BHT (w/v)	
Coenzyme Q <sub>10</sub>	303-98-0 C <sub>59</sub> H <sub>90</sub> O <sub>4</sub> M.W. 863.34	V-060-1ML	1.0 mg/mL 1 mL Ethanol	
Cyanocobalamin (Vitamin B <sub>12</sub> )	68-19-9 C <sub>63</sub> H <sub>88</sub> CoN <sub>14</sub> O <sub>14</sub> P M.W. 1355.37	V-019-1ML	1.0 mg/mL 1 mL Methanol	

# Reduce Ion Suppression Without Reducing Throughput

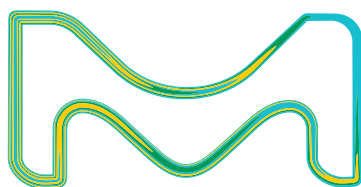
HybridSPE®-Phospholipid (HybridSPE®-PL) technology combines the simplicity of protein precipitation with the selectivity of solid phase extraction (SPE) for the targeted removal of phospholipids in biological plasma/serum.

## Features and Benefits:

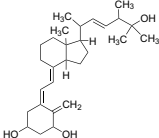
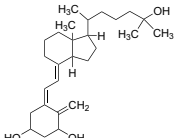
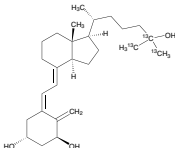
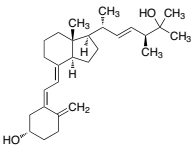
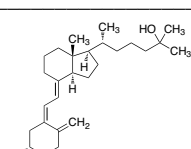
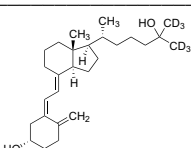
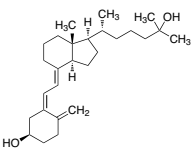
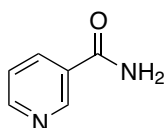
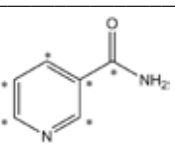
- Performs well for both hydrophobic and hydrophilic compounds, unlike competitive product chemistries
- The phospholipid retention mechanism is based on a selective Lewis acid-base interaction between the proprietary zirconia ions
- Simple, 2-3 step procedure with minimal to no method development required
- Formats Available: 96-well, dispersive 96-well tip (DPX™), cartridges and on-line SPE (Supel Genie)

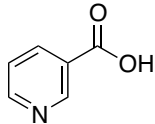
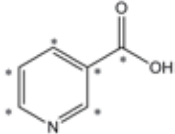
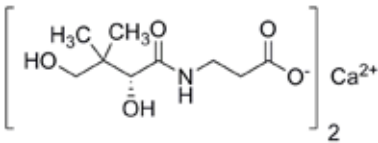
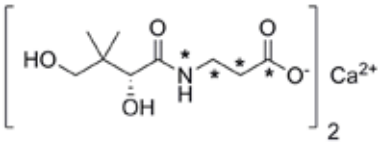
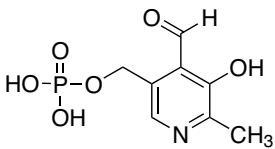
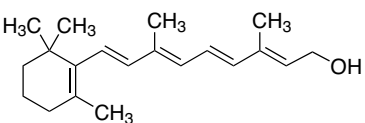
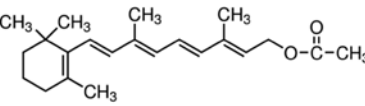
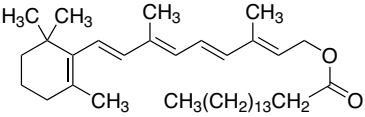
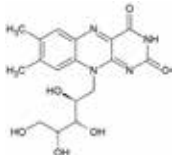
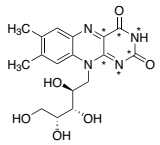
For more information visit:

[SigmaAldrich.com/HybridSPE](https://SigmaAldrich.com/HybridSPE)



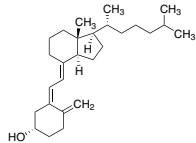
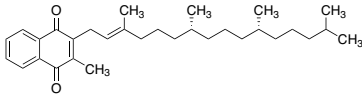
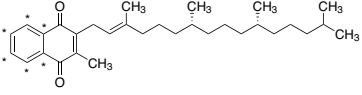
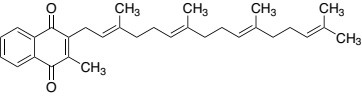
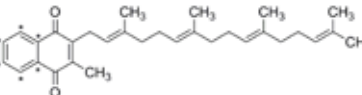
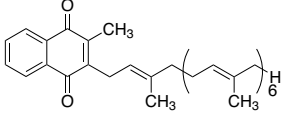
**Supelco®**  
Analytical Products

Product Name	ID	Cat. No.	Size	Structure
1 $\alpha$ ,25-Dihydroxyvitamin D <sub>2</sub>	60133-18-8 C <sub>28</sub> H <sub>44</sub> O <sub>3</sub> M.W. 428.65	H-090-1ML	5 $\mu$ g/mL 1 mL Ethanol	
1 $\alpha$ ,25-Dihydroxyvitamin D <sub>3</sub>	32222-06-3 C <sub>27</sub> H <sub>44</sub> O <sub>3</sub> M.W. 416.64	H-089-1ML	5 $\mu$ g/mL 1 mL Ethanol	
1,25-Dihydroxyvitamin D <sub>3</sub> - <sup>13</sup> C <sub>3</sub> (25,26,27- <sup>13</sup> C <sub>3</sub> )	<sup>13</sup> C <sub>3</sub> C <sub>24</sub> H <sub>44</sub> O <sub>3</sub> M.W. 419.61	H-107-1ML	5 $\mu$ g/mL 1 mL Ethanol	
25-Hydroxyvitamin D <sub>2</sub>	21343-40-8 C <sub>28</sub> H <sub>44</sub> O <sub>2</sub> M.W. 412.65	H-087-1ML	5 $\mu$ g/mL 1 mL Ethanol	
	21343-40-8 C <sub>28</sub> H <sub>44</sub> O <sub>2</sub> M.W. 412.65	H-073-1ML	50 $\mu$ g/mL 1 mL Ethanol	
25-Hydroxyvitamin D <sub>3</sub>	19356-17-3 C <sub>27</sub> H <sub>44</sub> O <sub>2</sub> M.W. 400.64	H-086-1ML	5 $\mu$ g/mL 1 mL Ethanol	
	63283-36-3 C <sub>27</sub> H <sub>44</sub> O <sub>2</sub> M.W. 400.64	H-083-1ML	100 $\mu$ g/mL 1 mL Ethanol	
D <sub>6</sub> -25-Hydroxyvitamin D <sub>3</sub> (26,26,26,27,27,27-D <sub>6</sub> )	78782-98-6 C <sub>27</sub> H <sub>38</sub> D <sub>6</sub> O <sub>2</sub> M.W. 406.67	H-074-1ML	50 $\mu$ g/mL 1 mL Ethanol	
3-epi-25-Hydroxyvitamin D <sub>3</sub>	73809-05-9 C <sub>27</sub> H <sub>44</sub> O <sub>2</sub> M.W. 400.64	E-086-1ML	50 $\mu$ g/mL 1 mL Ethanol	
Nicotinamide (Vitamin B <sub>3</sub> )	98-92-0 C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O M.W. 122.12	V-016-1ML	1.0 mg/mL 1 mL Methanol	
Nicotinamide- <sup>13</sup> C <sub>6</sub> (Vitamin B <sub>3</sub> - <sup>13</sup> C <sub>6</sub> )	<sup>13</sup> C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O M.W. 128.08	V-034-1ML	100 $\mu$ g/mL 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
Nicotinic acid (Vitamin B <sub>3</sub> )	59-67-6 C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub> M.W. 123.11	V-017-1ML	1.0 mg/mL 1 mL Methanol	
Nicotinic acid- <sup>13</sup> C <sub>6</sub> ) (Vitamin B <sub>3</sub> - <sup>13</sup> C <sub>6</sub> )	1189954-79-7 <sup>13</sup> C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub> M.W. 129.07	V-035-1ML	100 µg/mL 1 mL Methanol	
Pantothenic acid hemicalcium salt	137-08-6 C <sub>9</sub> H <sub>16</sub> NO <sub>5</sub> ·1/2Ca M.W. 218.23	V-062-1ML	1.0 mg/mL (as free acid) 1 mL 90:10 Methanol:Water	
Pantothenic acid- <sup>13</sup> C <sub>3</sub> , <sup>15</sup> N hemicalcium salt	356786-94-2 <sup>13</sup> C <sub>3</sub> C <sub>6</sub> H <sub>16</sub> <sup>15</sup> NNO <sub>5</sub> ·1/2Ca M.W. 222.2	V-063-1ML	100 µg/mL (as free acid) 1 mL 90:10 Methanol:Water	
Pyridoxal 5'-phosphate	54-47-7 C <sub>9</sub> H <sub>10</sub> NO <sub>5</sub> P M.W. 247.14	V-069-1ML	500 µg/mL 1 mL 80:20 Water:Acetonitrile	
Retinol (Vitamin A)	68-26-8 C <sub>20</sub> H <sub>30</sub> O M.W. 286.45	V-011-1ML	100 µg/mL ± 25% 1 ml Ethanol with 0.1% (w/v) BHT	
Retinyl acetate (Vitamin A acetate)	127-47-9 C <sub>22</sub> H <sub>32</sub> O <sub>2</sub> M.W. 328.49	V-040-1ML	100 µg/mL ± 25% 1 mL Ethanol with 0.1% (w/v) BHT	
Retinyl palmitate (Vitamin A palmitate)	79-81-2 C <sub>36</sub> H <sub>60</sub> O <sub>2</sub> M.W. 524.86	V-012-1ML	100 µg/mL 1 ml Ethanol with 0.1% (w/v) BHT	
(-)-Riboflavin (Vitamin B <sub>2</sub> )	83-88-5 C <sub>17</sub> H <sub>20</sub> N <sub>4</sub> O <sub>6</sub> M.W. 376.36	V-067-1ML	100 µg/mL 1 mL 1% ammonium acetate in 50:50 Methanol:Water	
(-)-Riboflavin- <sup>13</sup> C <sub>4</sub> , <sup>15</sup> N <sub>2</sub> (Vitamin B <sub>2</sub> - <sup>13</sup> C <sub>4</sub> , <sup>15</sup> N <sub>2</sub> )	1217461-14-7 C <sub>13</sub> <sup>13</sup> C <sub>4</sub> H <sub>20</sub> N <sub>2</sub> <sup>15</sup> N <sub>2</sub> O <sub>6</sub> M.W. 382.32	V-055-1ML	100 µg/mL 1 mL 1% ammonium acetate in 50:50 Methanol:Water	

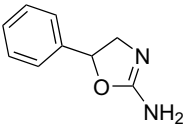
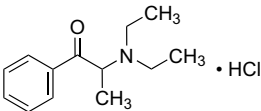
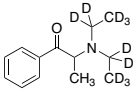
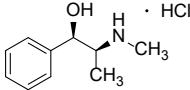
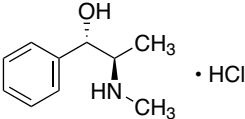
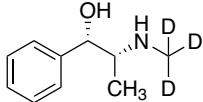
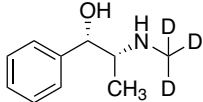
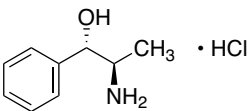
Product Name	ID	Cat. No.	Size	Structure
Thiamine HCl (Vitamin B <sub>1</sub> )	1967-03-08 C <sub>12</sub> H <sub>17</sub> ClN <sub>4</sub> OS·HCl M.W. 337.27	V-014-1ML	1.0 mg/mL (as free base) 1 mL Methanol	
Thiamine- <sup>13</sup> C <sub>3</sub> HCl (Vitamin B <sub>1</sub> - <sup>13</sup> C <sub>3</sub> )	<sup>13</sup> C <sub>3</sub> H <sub>17</sub> ClN <sub>4</sub> OS·HCl M.W. 303.79	V-052-1ML	100 µg/mL (as free base) 1 mL Methanol	
Thiamine pyrophosphate (Vitamin B <sub>1</sub> pyrophosphate)	154-87-0 C <sub>12</sub> H <sub>19</sub> ClN <sub>4</sub> O <sub>7</sub> P <sub>2</sub> S M.W. 460.77	V-053-1ML	1.0 mg/mL 1 mL 50:50 Methanol:Water	
(±)-α-Tocopherol (Vitamin E)	10191-41-0 C <sub>29</sub> H <sub>50</sub> O <sub>2</sub> M.W. 430.71	V-020-1ML	1.0 mg/mL 1 mL Methanol	
(±)-α-Tocopherol-D <sub>6</sub> (Vitamin E-D <sub>6</sub> )	113892-08-3 C <sub>29</sub> H <sub>44</sub> D <sub>6</sub> O <sub>2</sub> M.W. 436.74	V-010-1ML	500 µg/mL 1 mL Methanol	
(+)-γ-Tocopherol (Vitamin E)	54-28-4 C <sub>28</sub> H <sub>48</sub> O <sub>2</sub> M.W. 416.68	V-021-1ML	1.0 mg/mL 1 mL Methanol	
(±)-γ-Tocopherol-D <sub>3</sub>	842129-89-9 C <sub>28</sub> H <sub>45</sub> D <sub>3</sub> O <sub>2</sub> M.W. 419.7	V-046-1ML	500 µg/mL 1 mL Methanol	
Tocopheryl acetate (Vitamin E acetate)	52225-20-4 C <sub>31</sub> H <sub>52</sub> O <sub>3</sub> M.W. 472.74	V-033-1ML	1.0 mg/mL 1 mL Methanol	
Vitamin D <sub>2</sub>	50-14-6 C <sub>28</sub> H <sub>44</sub> O M.W. 396.65	V-024-1ML	1.0 mg/mL 1 mL Ethanol	
D <sub>3</sub> -Vitamin D <sub>2</sub> (6,19,19-D <sub>3</sub> )	1217448-46-8 C <sub>28</sub> H <sub>41</sub> D <sub>3</sub> O M.W. 399.67	V-026-1ML	100 µg/mL 1 mL Ethanol	

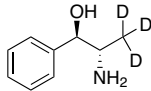
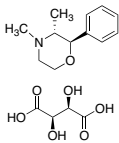
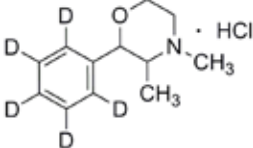
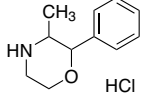
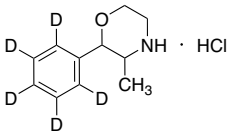
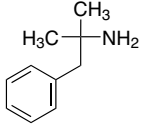
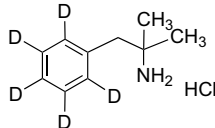
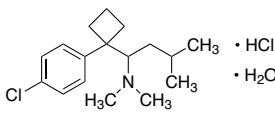


Product Name	ID	Cat. No.	Size	Structure
Vitamin D <sub>3</sub>	67-97-0 C <sub>27</sub> H <sub>44</sub> O M.W. 384.64	V-025-1ML	1.0 mg/mL 1 mL Ethanol	
Vitamin K <sub>1</sub>	84-80-0 C <sub>31</sub> H <sub>46</sub> O <sub>2</sub> M.W. 450.7	V-030-1ML	10 µg/mL 1 mL Ethanol	
Vitamin K <sub>1</sub> - <sup>13</sup> C <sub>6</sub>	C <sub>25</sub> <sup>13</sup> C <sub>6</sub> H <sub>46</sub> O <sub>2</sub> M.W. 456.65	V-041-1ML	5 µg/mL 1 mL Ethanol	
Vitamin K <sub>2</sub> (MK-4)	863-61-6 C <sub>31</sub> H <sub>40</sub> O <sub>2</sub> M.W. 444.65	V-031-1ML	100 µg/mL 1 mL Acetonitrile	
Vitamin K <sub>2</sub> (MK-4)- <sup>13</sup> C <sub>6</sub>	C <sub>25</sub> <sup>13</sup> C <sub>6</sub> H <sub>40</sub> O <sub>2</sub> M.W. 450.6	V-042-1ML	10 µg/mL 1 mL Acetonitrile	
Vitamin K <sub>2</sub> (MK-7)	2124-57-4 C <sub>46</sub> H <sub>64</sub> O <sub>2</sub> M.W. 649	V-044-1ML	100 µg/mL 1 mL Acetonitrile	

## Weight-Loss Drugs (Non-Amphetamine)

Amine and phenethylamine derivatives such as ephedrine, phentermine, fenfluramine, and sibutramine are central nervous system (CNS) stimulants historically marketed as weight-loss drugs, decongestants, and athletic performance enhancers. Internationally, these substances are available only through a doctor's prescription due to severe, adverse health effects associated with their use including tachycardia, stroke, seizure and psychosis. These drugs frequently appear in counterfeit medicines in products marketed as alternatives to street drugs, and as adulterants in dietary and herbal supplements. In order to ensure consumer safety, regulatory agencies in Europe, Canada, and the United States prohibit the distribution of dietary supplements adulterated with ephedrine or other pharmaceutical compounds. Despite these regulations, amine and phenethylamine derivatives are frequently identified in food and dietary supplements.

Product Name	ID	Cat. No.	Size	Structure
Aminorex	2207-50-3 C <sub>9</sub> H <sub>10</sub> N <sub>2</sub> O M.W. 162.19	<b>A-040-1ML</b>	1.0 mg/mL 1 mL Acetonitrile	
Diethylpropion HCl	134-80-5 C <sub>13</sub> H <sub>19</sub> NO·HCl M.W. 241.76	<b>D-121-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol with 1% 1M HCl	
Diethylpropion-D <sub>10</sub> HCl	1189500-62-6 C <sub>13</sub> H <sub>9</sub> D <sub>10</sub> NO·HCl M.W. 251.82	<b>D-122-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol with 1% 1M HCl	
1R,2S(-)-Ephedrine HCl	50-98-6 C <sub>10</sub> H <sub>15</sub> NO·HCl M.W. 201.69	<b>E-023-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
1S,2R(+)-Ephedrine HCl	24221-86-1 C <sub>10</sub> H <sub>15</sub> NO·HCl M.W. 165.23	<b>E-011-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
1S,2R(+)-Ephedrine-D <sub>3</sub> HCl	285979-73-9 C <sub>10</sub> H <sub>12</sub> D <sub>3</sub> NO·HCl M.W. 204.71	<b>E-025-1ML</b>	100 µg/mL ( <i>as free base</i> ) 1 mL Methanol	
	285979-73-9 C <sub>10</sub> H <sub>12</sub> D <sub>3</sub> NO·HCl M.W. 204.71	<b>E-026-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	
(±)-Phenylpropanolamine HCl (Norephedrine HCl)	154-41-6 C <sub>9</sub> H <sub>13</sub> NO·HCl M.W. 187.67	<b>P-038-1ML</b>	1.0 mg/mL ( <i>as free base</i> ) 1 mL Methanol	

Product Name	ID	Cat. No.	Size	Structure
(±)-Norephedrine-D <sub>3</sub> hydrochloride	C <sub>9</sub> H <sub>10</sub> D <sub>3</sub> NO·HCl M.W. 190.69	<b>N-043-1ML</b>	1.0 mg/mL (as free base) 1 mL Methanol	 HCl
Phendimetrazine tartrate	50-58-8 C <sub>12</sub> H <sub>17</sub> NO·C <sub>4</sub> H <sub>6</sub> O <sub>6</sub> M.W. 341.36	<b>P-127-1ML</b>	1.0 mg/mL 1 mL Methanol	
Phendimetrazine-D <sub>5</sub> HCl	C <sub>12</sub> H <sub>12</sub> D <sub>5</sub> NO·HCl M.W. 232.76	<b>P-132-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	 HCl
Phenmetrazine HCl	1707-14-8 C <sub>11</sub> H <sub>15</sub> NO·HCl M.W. 177.24	<b>P-128-1ML</b>	1.0 mg/mL 1 mL Methanol	 HCl
Phenmetrazine-D <sub>5</sub> HCl	1246817-91-3 C <sub>11</sub> H <sub>10</sub> D <sub>5</sub> NO·HCl M.W. 218.73	<b>P-129-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	 HCl
Phentermine	122-09-8 C <sub>10</sub> H <sub>15</sub> N M.W. 149.23	<b>P-023-1ML</b>	1.0 mg/mL 1 mL Methanol	
Phentermine-D <sub>5</sub> HCl	1330236-21-9 C <sub>10</sub> D <sub>5</sub> H <sub>10</sub> N·HCl M.W. 190.72	<b>P-034-1ML</b>	100 µg/mL (as free base) 1 mL Methanol	 HCl
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## K

Ketamine-D <sub>4</sub> HCl	29
Ketamine HCl	29
Ketoconazole	46
10-Ketonaltrexone	112

## L

Lacosamide	10, 32
Lacosamide- <sup>13</sup> C <sub>3</sub> D <sub>3</sub>	32
α-Lactalbumin (from bovine milk)	130
Lactoferrin (from bovine milk)	130
β-Lactoglobulin A & B (from bovine milk)	130
Lamivudine	121
Lamotrigine	10, 32
Lamotrigine- <sup>13</sup> C <sub>3</sub> , <sup>15</sup> N <sub>4</sub>	32
LAMPA (Lysergic acid N,N-methylpropylamide)	99
L-Ascorbic Acid (Vitamin C)	154
L-Ascorbic Acid (Vitamin C)- <sup>13</sup> C <sub>6</sub>	154
(-)-Levamisole HCl	121
Levetiracetam	10, 33
Levetiracetam-D <sub>6</sub>	33
Levofloxacin	121
Levomethorphan	112
Levorphanol-D <sub>3</sub>	112
Levorphanol tartrate	112
Levothyroxine	10
Lidocaine	29
Lidocaine-D <sub>10</sub>	30
Lidocaine Impurity Mixture	125
Linoleic acid	92
α-Linolenic acid	92
Lisdexamfetamine-D <sub>4</sub> dimesylate	19
Lisdexamfetamine dimesylate	19
Lisinopril	10
Lithocholic acid	69
Lofepamine HCl	40
Loprazolam	63
Loratadine	10
Lorazepam	9, 63
Lorazepam-D <sub>4</sub>	63
Lorazepam glucuronide	63
Lormetazepam	64
Lormetazepam- <sup>13</sup> C <sub>3</sub> D <sub>3</sub>	64
LSD-D <sub>3</sub> (Lysergic acid diethylamide-D <sub>3</sub> )	99
LSD (Lysergic acid diethylamide)	99
Lurasidone-D <sub>8</sub> HCl	51
Lurasidone HCl	51
Lysergic acid 2,4-dimethylazetidide tartrate (LSZ tartrate)	99

## M

MAB-CHMINACA	150
MAM2201	150
MAM2201 4-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	150
MAM2201 5-Pentanoic acid metabolite	150
Maprotiline HCl	40
Mazindol	142
Mazindol-D <sub>4</sub>	142
(±)-MBDB HCl	19
(±)-MDA	9
(±)-MDA [(±)-3,4-Methylenedioxy-amphetamine]	19

(±)-MDA-D <sub>5</sub> [(±)-3,4-Methylenedioxy-amphetamine-D <sub>5</sub> ]	19	S(-)-Methcathinone HCl	84
MDAI HCl	19, 83	Methedrone HCl (4-Methoxymethcathinone HCl)	84
(±)-MDEA	9	Methedrone Norpseudo-ephedrine Metabolite HCl	84
(±)-MDEA [(±)-3,4-Methylenedioxyethyl-amphetamine]	20	Methiopropamine HCl	21
(±)-MDEA-D <sub>5</sub> [(±)-3,4-Methylenedioxyethyl-amphetamine-D <sub>5</sub> ]	20	Methocarbamol	132
(±)-MDEA-D <sub>6</sub> [(±)-3,4-Methylenedioxyethyl-amphetamine-D <sub>6</sub> ]	20	Methocarbamol-D <sub>3</sub>	133
(±)-MDMA	9	Methohexital-D <sub>5</sub>	55
(±)-MDMA [(±)-3,4-Methylenedioxymeth-amphetamine]	20	Methotrexate	121
(±)-MDMA-D <sub>5</sub> [(±)-3,4-Methylenedioxymeth-amphetamine-D <sub>5</sub> ]	20	Methotrexate-D <sub>3</sub>	121
MDMB-FUBINACA	150	Methoxetamine-D <sub>3</sub> HCl	100
MDPBP HCl (3',4'-Methylenedioxy-α-pyrrolidinobutiophenone HCl)	83	Methoxetamine HCl	100
MDPPP HCl (3',4'-Methylenedioxy-α-pyrrolidinopropiophenone HCl)	83	Methoxyphenidine HCl	100
Meclonazepam	64	Methoxyacetyl fentanyl HCl	97
Meclonazepam-D <sub>3</sub>	64	3-Methoxytyramine-D <sub>4</sub> HCl	79
Medazepam	64	3-Methoxytyramine HCl	79
5-MeO-AMT	100	Methyl-D <sub>3</sub> -malonic acid	121
5-MeO-DALT	100	3,4-Methylenedioxypropylvalerone-D <sub>8</sub> HCl (MDPV-D <sub>8</sub> HCl)	84
5-MeO-DiPT	100	3,4-Methylenedioxypropyl-valerone HCl (MDPV)	84
5-MeO-DMT	100	Methylephedrine	84
Meperidine	11, 24	4-Methylethcathinone HCl	85
Meperidine-D <sub>4</sub>	24	Methylhexanamine-D <sub>4</sub> HCl (DMAA-D <sub>4</sub> HCl)	142
Mephedrone-D <sub>3</sub> HCl	83	Methylhexanamine HCl (DMAA HCl)	142
Mephedrone HCl	83	(±)-cis-3-Methylfentanyl HCl	97
Mephobarbital	55	Methylmalonic acid	121
Meprobamate	132	Methylmalonic acid- <sup>13</sup> C <sub>4</sub>	121
Meprobamate- <sup>13</sup> C <sub>3</sub>	132	(±)-4-Methyl-N-ethyl-norephedrine-D <sub>5</sub> HCl (4-MEC Metabolite)	85
Meprobamate-D <sub>3</sub>	132	(±)-4-Methyl-N-ethyl-norephedrine HCl (4-MEC Metabolite)	85
Meprobamate-D <sub>7</sub> (2-methyl-1,3-propanediol-D <sub>7</sub> )	132	4-Methyl-N-ethyl-pentedrone HCl (4-MEAP HCl)	85
Meprobamate-D <sub>7</sub> (propyl-D <sub>7</sub> )	132	4-(Methylnitrosamine)-1-(3-pyridyl)-1-butanone- <sup>13</sup> C <sub>6</sub> (NNAL- <sup>13</sup> C <sub>6</sub> )	144
Mescaline-D <sub>9</sub> HCl	100	4-(Methylnitrosamine)-1-(3-pyridyl)-1-butanone- <sup>13</sup> C <sub>6</sub> (NNK- <sup>13</sup> C <sub>6</sub> )	144
Mescaline HCl	100	4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNAL)	144
(±)-Metanephine-D <sub>3</sub> HCl	79	4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanone (NNK)	144
Metaxalone	132	Methylone-D <sub>3</sub> HCl	85
Metformin HCl	10, 121	Methylone HCl	85
Metformin Impurity Mixture	125	(±)-4-Methylephedrine-D <sub>3</sub> HCl (Mephedrone Metabolite)	84
(±)-Methadone	11, 25	(±)-4-Methylephedrine HCl (Mephedrone Metabolite)	84
(±)-Methadone-D <sub>9</sub>	25	Methylphenidate-D <sub>9</sub> HCl (Racemic mixture of erythro and threo isomers)	143
(±)-Methadone-D <sub>3</sub>	25	(±)-threo-Methylphenidate-D <sub>4</sub> HCl	143
Methamphetamine	9, 10	Methylphenidate HCl	10
(±)-Metanephine HCl	9	Methylphenidate HCl (Racemic mixture)	142
(±)-Methamphetamine	9, 10, 20	17α-Methyltestosterone	139
(±)-Methamphetamine-D <sub>5</sub>	20	Metoprolol tartrate	76
(±)-Methamphetamine-D <sub>8</sub>	20	Metronidazole	122
(±)-Methamphetamine-D <sub>9</sub>	21	Metronidazole-D <sub>3</sub>	122
(±)-Methamphetamine-D <sub>11</sub>	21	Mianserin-D <sub>3</sub>	41
(±)-Methamphetamine-D <sub>14</sub>	21	Mianserin HCl	40
Methamphetamine/Cocaine/Heroin Mix	10	Midazolam	64
S(+)-Methamphetamine (dextro-Methamphetamine)	20	Midazolam-D <sub>4</sub> maleate	64
R(-)-Methamphetamine (levo-Methamphetamine)	20	Milnacipran-D <sub>10</sub> HCl	41
Methandienone	139	Milnacipran HCl	41
Methaqualone	132	Mirtazapine	41
Methaqualone-D <sub>7</sub>	132	Mirtazapine-D <sub>3</sub>	41
(±)-Methcathinone-D <sub>3</sub> HCl	84		
R(+)-Methcathinone HCl	84		

Mitragynine	100	(-)-Nicotine	10
Mitragynine-D <sub>3</sub>	100	(±)-Nicotine-D <sub>4</sub>	143
MMB-CHMICA	150	(S)-(-)-Nicotine	143
MMB-FUBINACA	150	Nicotinic acid- <sup>13</sup> C <sub>6</sub> (Vitamin B <sub>3</sub> - <sup>13</sup> C <sub>6</sub> )	157
Modafinil	143	Nicotinic acid (Vitamin B <sub>3</sub> )	157
Modafinil acid	143	Nifoxipam	64
Modafinil-D <sub>10</sub>	143	Nifoxipam-D <sub>4</sub>	64
1-Mononitroglycerin	122	Nimetazepam	64
2-Mononitroglycerin	122	Nitrazepam	9, 64
Montelukast Sodium	10	Nitrazepam-D <sub>5</sub>	65
Morphine	11, 108, 112, 113	(S)-N-Nitrosoanabasine (NAB)	143
Morphine-D <sub>3</sub>	112	(S)-N-Nitrosoanatabine	143
Morphine-D <sub>6</sub>	112	(±)-N'-Nitrosonornicotine (NNN)	143
Morphine-3β-D-glucuronide-D <sub>3</sub>	113	Norbuprenorphine	115
Morphine-6β-D-glucuronide	112	Norbuprenorphine-D <sub>3</sub>	115
Morphine-N-Oxide	113	Norbuprenorphine glucuronide	115
MT-45 diHCl	25	Norbuprenorphine glucuronide-D <sub>3</sub>	116
Multicomponent Alcohol Calibration Kit	14	Norcarfentanil oxalate	97
Multicomponent Alcohol Mix-100	14	Norchlordiazepoxide	65
Multicomponent Alcohol Mix-250	14	Norchlordiazepoxide-D <sub>5</sub>	65
Multicomponent Alcohol Mix 500	14	Norcocaine-D <sub>3</sub> HCl	91
Multicomponent Alcohol Mix 1000	14	Norcocaine HCl	91
Multicomponent Alcohol Mix-2000	15	Norcodeine	116
Multicomponent Alcohol Mix-4000	15	Norcodeine-D <sub>3</sub>	116
Multi-Component Drug Standards and Kits	9	(R,S)-Norcotinine- <sup>13</sup> C <sub>3</sub>	144
Mycophenolic acid	102	Nordiazepam	65
Mycophenolic acid-D <sub>3</sub>	103	Nordiazepam-D <sub>5</sub>	65
Mycophenolic acid-D <sub>3</sub> -β-D-glucuronide	103	Nordothiepin HCl (cis/trans)	41
Mycophenolic acid-β-D-glucuronide	103	N,N-Dimethyltryptamine (DMT)	99
<b>N</b>			
Nalbuphine-D <sub>3</sub>	114	(±)-Norephedrine-D <sub>3</sub> hydrochloride	161
Nalbuphine HCl	114	(±)-Norepinephrine-D <sub>6</sub> HCl	79
Nalorphine HCl	114	(±)-Norepinephrine HCl	9
6α-Naloxol	114	Norfentanyl-D <sub>5</sub> oxalate	97
Naloxone	11, 114	Norfentanyl oxalate	97
Naloxone-D <sub>5</sub>	114	Norfluoxetine-D <sub>6</sub> Oxalate	41
Naloxone-D <sub>5</sub> -3β-D-glucuronide	114	Norfluoxetine Oxalate	41
Naloxone-N-Oxide	114	Norhydrocodone-D <sub>3</sub> HCl	116
6α-Naltrexol	114	Norhydrocodone HCl	116
6β-Naltrexol	115	Norhydromorphone HCl	116
6β-Naltrexol-3β-D-glucuronide	115	(±)-Norketamine-D <sub>4</sub> HCl	30
6β-Naltrexol-D <sub>3</sub>	115	(±)-Norketamine HCl	30
Naltrexone	11, 115	Norlidocaine	30
Naltrexone-3β-D-glucuronide	114	Normeperidine	25
Naltrexone-D <sub>3</sub>	115	Normeperidine-D <sub>4</sub>	25
Naltrexone-D <sub>3</sub> -3β-D-glucuronide	115	(±)-Normetanephrine-D <sub>3</sub> HCl	79
Nandrolone	139	(±)-Normetanephrine HCl	9
Naphyrone-D <sub>5</sub> HCl	85	Normorphine	116
Naphyrone HCl	85	(±)-Nornicotine	144
Naproxen	10, 11, 106	(±)-Nornicotine-D <sub>4</sub>	144
25B-NBOMe-D <sub>3</sub> HCl	128	Noroxycodone-D <sub>3</sub> HCl	116
25B-NBOMe HCl	128	Noroxycodone HCl	116
25C-NBOMe-D <sub>3</sub> HCl	129	Noroxycodone HCl	116
25C-NBOMe HCl	129	Noroxymorphone-3β-D-glucuronide	117
25H-NBOMe HCl	129	Noroxymorphone HCl	116
25I-NBOH HCl	129	(±)-Norpropoxyphene-D <sub>5</sub> maleate	25
25I-NBOMe-D <sub>3</sub> HCl	129	(+)-Norpropoxyphene maleate	25
25I-NBOMe HCl	129	Norquetiapine-D <sub>8</sub> HCl	52
Nefazodone HCl	41	Norquetiapine HCl	51
Nevirapine Impurity Mixture	125	Norserttraline- <sup>13</sup> C <sub>6</sub> HCl	42
Nicotinamide- <sup>13</sup> C <sub>6</sub> (Vitamin B <sub>3</sub> - <sup>13</sup> C <sub>6</sub> )	156	Norserttraline HCl	41
Nicotinamide (Vitamin B <sub>3</sub> )	156	(+)-Norpseudoephedrine HCl (Cathine HCl)	21
		(±)-Norpseudoephedrine-D <sub>3</sub> HCl	21
		Nortilidine-D <sub>3</sub> HCl	26
		Nortilidine HCl	26

Nortriptyline-D <sub>3</sub> HCl	42	PEth 16:0/18:2	15
Nortriptyline HCl	42	Phenacetin	26
(±)-Norverapamil HCl	76	Phenazepam	65
<b>O</b>			
Ocfentanil	97	Phenazepam-D <sub>4</sub>	66
Olanzapine	52	Phendimetrazine-D <sub>5</sub> HCl	161
Olanzapine-D <sub>8</sub>	52	Phendimetrazine tartrate	161
Omeprazole	10, 122	Phenelzine Sulfate	42
Omeprazole Impurity Mixture	125	Pheniramine	48
OPC-3373 (Aripiprazole Metabolite)	52	Phenmetrazine-D <sub>5</sub> HCl	161
OPC-3373-D <sub>4</sub> (Aripiprazole Metabolite-D <sub>4</sub> )	52	Phenmetrazine HCl	161
Opiate Multi-Component Mixture-5	11	Phenobarbital	9, 10, 55
Over-The-Counter Multi-Component Mixture-6	11	Phenobarbital-D <sub>5</sub>	55
Oxazepam	9, 65	Phentermine-D <sub>5</sub> HCl	161
Oxazepam-D <sub>5</sub>	65	Phentermine	9, 10, 161
Oxazepam-D <sub>5</sub> glucuronide	65	(±)-Phenylephrine-D <sub>3</sub> HCl	21
Oxazepam glucuronide	65	(R)-Phenylephrine HCl	10
Oxcarbazepine	10, 33	R(-)-Phenylephrine HCl	21
Oxcarbazepine- <sup>13</sup> C <sub>6</sub>	10, 33	(±)-Phenylpropanolamine HCl (Norephedrine HCl)	160
2-Oxo-3-hydroxy-LSD	101	Phenytol	10, 33
10-Oxomorphine (10-Ketomorphine)	117	Phenytol-D <sub>10</sub>	10, 33
Oxycodone	11, 117	Pholcodine	119
Oxycodone-D <sub>3</sub> (O-methyl-D <sub>3</sub> )	117	Pioglitazone HCl	10
Oxycodone-D <sub>6</sub>	117	PMA HCl (p-Methoxyamphetamine HCl)	21
Oxymorphone	11, 117	PMMA HCl (p-Methoxymethamphetamine HCl)	22
Oxymorphone-3β-D-glucuronide	117	Posaconazole	46
Oxymorphone-D <sub>3</sub>	117	Posaconazole-D <sub>4</sub>	46
Oxymorphone-D <sub>3</sub> -3β-D-glucuronide	117	Pramipexole Chiral System Suitability Solution	125
<b>P</b>			
Pain Management Multi-Component		Pramipexole Organic Impurity System Suitability Mixture	125
Opiate Mixture-13	11	Prazepam	66
Palmitoyl-L-Carnitine	12	Prazepam-D <sub>5</sub>	66
Palmitoyl-L-Carnitine (N-Methyl-D <sub>3</sub> )	12	Prednisolone	10, 139
Pantothenic acid- <sup>13</sup> C <sub>3</sub> , <sup>15</sup> N hemicalcium salt	157	Prednisone	10, 139
Pantothenic acid hemicalcium salt	157	Pregabalin	10, 33
Parabens Impurity Mixture	125	Pregabalin-D <sub>6</sub>	33
Paroxetine-D <sub>6</sub> maleate	42	Pregabalin-D <sup>13</sup> C <sub>3</sub>	34
Paroxetine maleate	42	Pregnenolone	139
PB-22	151	Pregnenolone- <sup>13</sup> C <sub>27</sub> D <sub>2</sub>	139
PB-22 3-carboxyindole metabolite	151	Primidone	55
PB-22 4-Hydroxypentyl metabolite	151	Procainamide HCl	10
PB-22 4-Hydroxypentyl metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	151	Progesterone	139
PB-22 5-Pentanoic acid metabolite	151	Progesterone-D <sub>9</sub>	140
PB-22 5-Pentanoic acid metabolite-D <sub>5</sub> (indole-D <sub>5</sub> )	151	Promethazine-D <sub>3</sub> HCl	48
PCP-D <sub>5</sub> (Phencyclidine-D <sub>5</sub> )	101	Promethazine HCl	48
PCP (Phencyclidine)	101	Propionyl-L-Carnitine	12
Pentazocine	26	Propionyl-L-Carnitine-(N-Methyl-D <sub>3</sub> )	12
(±)-Pentazocine- <sup>13</sup> C <sub>3</sub> HCl	26	Propofol	30
Pentdrone HCl	85	Propofol-D <sub>15</sub>	30
Pentobarbital	9, 55	Propofol β-D-glucuronide sodium salt	30
Pentobarbital-D <sub>5</sub>	55	(+)-Propoxyphene	10, 26
Pentylone-D <sub>3</sub> HCl	86	(+)-Propoxyphene-D <sub>5</sub>	26
Pentylone HCl	85	(+)-Propoxyphene-D <sub>11</sub>	26
Perampanel-D <sub>4</sub>	33	(±)-Propranolol-D <sub>7</sub> (ring-D <sub>7</sub> )	77
Perphenazine	42	Propranolol HCl	76
Perphenazine-D <sub>8</sub>	42	Protriptyline-D <sub>3</sub> HCl	42
PEth 16:0/18:1	15	Protriptyline HCl	42
PEth 16:0/18:1-D <sub>5</sub>	15	Pseudoephedrine-D <sub>3</sub> hydrochloride	22
		(1R,2R)-(-)-Pseudoephedrine	11
		R,R(-)-Pseudoephedrine	10
		R,R(-)-Pseudoephedrine	22
		S,S(+)-Pseudoephedrine	22

Psilocin	101	Sufentanil-D <sub>5</sub>	98
Psilocin-D <sub>10</sub>	101	Suvorexant-D <sub>6</sub>	122
Psilocybin	101		
Psilocybin-D <sub>4</sub>	101	<b>T</b>	
Pyrazolam	66	Tacrolimus	103
Pyridoxal 5'-phosphate	157	Tadalafil	122
Pyridoxine Impurity Mixture	125	Tapentadol-D <sub>3</sub> HCl	27
Pyrovalerone HCl	86	Tapentadol-D <sub>3</sub> -β-D-glucuronide	27
α-Pyrrolidinobutophenone HCl (α-PBP HCl)	86	Tapentadol HCl	26
α-Pyrrolidinopropiophenone HCl (α-PPP HCl)	86	Tapentadol-O-sulfate	27
α-Pyrrolidinovalerophenone-D <sub>8</sub> HCl		Tapentadol-β-D-glucuronide	26
(α-PVP-D <sub>8</sub> HCl)	86	Taurocholic acid sodium salt	70
α-Pyrrolidinovalerophenone HCl (α-PVP HCl)	86	Temazepam	9, 66
		Temazepam-D <sub>5</sub>	66
<b>Q</b>		Temazepam glucuronide lithium salt	66
Quazepam	66	Teriflunomide	103
Quetiapine carboxylic acid	52	Teriflunomide-D <sub>4</sub>	103
Quetiapine carboxylic acid-D <sub>8</sub>	52	Testosterone	140
Quetiapine-D <sub>8</sub> hemifumarate	52	Testosterone-2,3,4- <sup>13</sup> C <sub>3</sub>	140
Quetiapine fumarate	52	Testosterone CRM in Serum, 4 ng/dL, 1mL	87
		Testosterone CRM in Serum, 52.5 ng/dL	87
<b>R</b>		Testosterone CRM in Serum, 750 ng/dL	87
Remifentanil acid	97	Testosterone CRM in Serum, 2000 ng/dL	87
Remifentanil HCl	97	Testosterone-D <sub>3</sub> (16,16 17-D <sub>3</sub> )	140
Retigabine	34	Testosterone Serum Blank	87
Retigabine-D <sub>4</sub>	34	Δ <sup>9</sup> -Tetrahydrocannabinolic acid A (THCA-A)	74
Retinol (Vitamin A)	157	Tetrahydrocannabivarinic Acid (THCVA)	74
Retinyl acetate (Vitamin A acetate)	157	Tetrahydrocannabivarin (THCV)	74
Retinyl palmitate (Vitamin A palmitate)	157	Tetrazepam	66
Riboflavin Impurity Mixture	125	exo-THC	74
(-)-Riboflavin- <sup>13</sup> C <sub>4</sub> , <sup>15</sup> N <sub>2</sub> (Vitamin B <sub>2</sub> - <sup>13</sup> C <sub>4</sub> , <sup>15</sup> N <sub>2</sub> )	157	THC Cannabinoids Mixture-3	11
(-)-Riboflavin (Vitamin B <sub>2</sub> )	157	(-)-Δ <sup>8</sup> -THC	73
Risperidone	52	(-)-Δ <sup>9</sup> -THC	73
Risperidone-D <sub>4</sub>	52	(-)-Δ <sup>9</sup> -THC-D <sub>3</sub>	73
Ritalinic acid HCl	144	(±)-Δ <sup>9</sup> -THC	73
(±)-threo-Ritalinic acid-D <sub>4</sub> HCl	144	Thebaine	119
(±)-threo-Ritalinic acid-D <sub>10</sub> HCl	144	Theobromine	77, 145
Rivastigmine Impurity Mixture	125	Thiamine- <sup>13</sup> C <sub>3</sub> HCl (Vitamin B <sub>1</sub> - <sup>13</sup> C <sub>3</sub> )	158
Rufinamide	10, 34	Thiamine HCl (Vitamin B <sub>1</sub> )	158
		Thiamine Impurity Mixture	126
<b>S</b>		Thiamine pyrophosphate	
Salicylic acid	10	(Vitamin B <sub>1</sub> pyrophosphate)	158
Salicylic Acid Impurity Mixture	126	Thioridazine	53
Salvinorin A	101	Thioridazine-D <sub>3</sub> HCl	53
(-)-Scopolamine-D <sub>3</sub> HCl	101	TH-PVP HCl	86
(-)-Scopolamine HBr	101	Thyroglobulin	130
SDB-005	151	L-Thyroxine- <sup>13</sup> C <sub>6</sub> (T <sub>4</sub> - <sup>13</sup> C <sub>6</sub> )	153
Secobarbital	9, 56	L-Thyroxine (T <sub>4</sub> )	153
Secobarbital-D <sub>5</sub>	56	Tiagabine-D <sub>6</sub> HCl	34
R(-)-Selegiline [(-)-Deprenyl]	43	Tiagabine HCl	34
Sertraline-D <sub>3</sub> HCl	43	Tilidine-D <sub>6</sub> HCl	27
Sertraline HCl	10, 43	Tilidine HCl	27
Sibutramine HCl	161	Tizanidine-D <sub>4</sub> HCl	133
Sildenafil	122	Tizanidine HCl	133
Simvastatin	10	(+)-γ-Tocopherol (Vitamin E)	158
Sirolimus-D <sub>3</sub>	103	(±)-α-Tocopherol-D <sub>6</sub> (Vitamin E-D <sub>6</sub> )	158
Sirolimus (Rapamycin)	103	(±)-α-Tocopherol (Vitamin E)	158
Spice Cannabinoid Mix	11	(±)-γ-Tocopherol-D <sub>3</sub>	158
Spice Cannabinoid Mix 2	11	Tocopheryl acetate (Vitamin E acetate)	158
Spice Cannabinoid Mix 3	11	Topiramate	10, 34
Stanozolol	140	Topiramate-D <sub>12</sub>	34
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Valeryl fentanyl HCl	98
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