

A close-up photograph of a laboratory setting. A person wearing safety glasses and a lab coat is using a pipette to transfer a yellow liquid into a multi-well plate. The background is slightly blurred, showing other lab equipment and a blue light source.

Next-Gen High Complexity Molecular Testing

MLS LABS
NEVADA

*We know better patient outcomes
are achieved through fast, accurate,
and reliable laboratory results.*

Medical Laboratory Services

is a high-complexity laboratory accredited by CAP, committed to the swift and precise identification of pathogens. We support clinicians and healthcare providers in promptly determining the causes of diseases, delivering accurate and rapid solutions for their patients.

We understand that improved patient outcomes result from fast, precise, and reliable laboratory results. Our range of molecular products provides diagnostics for various infectious diseases.



Molecular testing is a powerful tool in the diagnosis and management of infectious diseases. Unlike traditional culture-based testing methods, molecular testing can provide exceptional specificity and accuracy, which can lead to faster and more accurate diagnoses. This can help to guide effective, personalized treatment plans and improve patient outcomes.

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DIAGNOSTICS WE OFFER

- *Toxicology Testing*
- *Respiratory Panel (RPP)*
- *Urinary Tract Panel (UTI)*
- *Women's Health (WH) Wound*
- *Panel (WP) Sexual Transmitted*
- *Panel (STI) Gastrointestinal*
- *Panel (GI) Covid-19 & Flu*
- *(COVID)*

ADDITIONALLY, WE OFFER

- *Antibiotic Resistance Markers*

Benefits of Molecular

Diagnostics

Unlike traditional infectious disease testing, Genetics molecular testing provides exceptional **specificity** and **accuracy**, leading to timely diagnosis and effective, personalized treatment with the following benefits :

- *Unmatched accuracy of PCR*
- *Expedited patient results*
- *Extensive Pathogen Panels*
- *Identify pathogens by specific Genetic markers*
- *Improved patient outcomes*
- *Resistance Markers to avoid ineffective Antibiotics*
- *Simple collection*
- *Direct access to experienced scientific staff*
- *Improved Disease Management*
- *Infectious Disease Control*

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Toxicology Testing (TT)

TOXICANTS DETECTED

Ethanol (alcohol)

Methamphetamine

Morphine

Benzoyllecgonine (cocaine metabolite)

Delta-9-tetrahydrocannabinol (THC, active compound in cannabis)

Acetaminophen (paracetamol)

Salicylate (aspirin)

Phencyclidine (PCP)

Amphetamine

Barbiturates (e.g., phenobarbital)

Benzodiazepines (e.g., diazepam, lorazepam)

Oxycodone

Fentanyl

Methadone

Digoxin

Cyanide

Carbon monoxide

Lead (Pb)

Mercury (Hg)

Arsenic (As)

Tricyclic antidepressants (e.g., amitriptyline)

Lithium

Isopropanol (isopropyl alcohol)

Methanol

Organophosphate pesticides

Acetylcholinesterase inhibitors (nerve agents)

Toxicology testing detects and analyzes harmful substances like drugs and chemicals in the body. It identifies exposure levels, assesses effects on organs, and evaluates health risks, guiding medical decisions and poison management. This testing is vital for drug overdose cases and monitoring toxin exposure, ensuring medications and chemicals are safe for human use by studying their toxic effects.

Collection: Urine

Transport: Urine Collection Tube, No Preservatives, sterile

Stability: Ambient 3 days

Symptoms

- Pain
- Nausea and vomiting
- Dizziness
- Confusion or disorientation
- Severe headaches
- Difficulty breathing or shortness of breath
- Rapid or irregular heartbeat (palpitations)
- Seizures or convulsions
- Muscle weakness or tremors
- Blurred vision or other vision disturbances
- Hallucinations

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Respiratory Panel (RPP)

Respiratory tract infection is one of the top reasons a patient decides to visit their healthcare clinic. A sore throat or cough triggers an immediate discomfort, and these infections are usually resolved with antibiotics. Real-Time PCR Molecular testing has enabled the simultaneous detection of different pathogens. Differentiating viral and/or bacterial infections is essential for selecting the appropriate treatment.

Collection: *Swab*

Transport: *BioTeke VTM*

Stability: *Ambient 3 days*

Symptoms

- Acute Bronchitis
- Common Cold
- Acute Pharyngitis
- Acute Tonsillitis
- Cough and Fever
- Wheezing
- Pneumonia
- Viral Infection

PATHOGENS DETECTED

Human Coronavirus HKU1

Human Coronavirus NL63

Human Coronavirus 229E

Human Coronavirus OC43

Human Metapneumovirus A/B

Human Rhinovirus

Human Enterovirus

Influenza A

Influenza B

Parainfluenza Virus 1

Parainfluenza Virus 2

Parainfluenza Virus 3

Parainfluenza Virus 4

Respiratory Syncytial Virus A/B

Human Adenovirus

Human Bocavirus

Human Parechovirus

Respiratory Bacterial

Mycoplasma pneumoniae

Chlamydia pneumoniae

Streptococcus pneumoniae

Klebsiella pneumoniae

Legionella pneumophila/longbeach

Haemophilus influenzae

Staphylococcus aureus

Salmonella Spp

Moraxella catarrhalis

Bordetella Pertussis

Specimen Validity

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Urinary Tract Panel (UTI)

Urine culture-based methods for the detection of pathogens involved in urinary tract infections (UTIs) are cumbersome and lengthy. UTI Real Time PCR panel designed to enable rapid analysis of a wide range of urinary tract viral, bacterial and fungal pathogens.

PATHOGENS DETECTED

Mycoplasma hominis

Ureaplasma urealyticum

Candida albicans

Candida glabrata

Candida parapsilosis

Candida tropicalis

Staphylococcus aureus

Streptococcus agalactiae

Escherichia coli

Enterobacter Cloacae

Klebsiella Oxytoca

Klebsiella Pneumoniae

Providencia Stuartii

Staphylococcus Saprophyticus

Morganella Morganii

Serratia Marcescens

Proteus Mirabilis

Pseudomonas Aeruginosa

Enterococcus faecalis

Specimen Validity

Collection: Urine

Transport: Urine Collection Tube, No Preservatives, sterile

Stability: Ambient 3 days

Symptoms

- Pain or burning sensation during urination
- Frequent urination
- Urgency to urinate
- Cloudy or strong-smelling urine
- Blood in the urine
- Pelvic pain (in women)
- Rectal pain (in men)
- Feeling tired or shaky

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Women's Health Panel (WH)

Vaginitis is a leading cause of clinic visits by women, with more than 10 million per year in the United States. Limitations with traditional test methods contribute to poor diagnosis, inappropriate treatment, and persistent symptoms. We provide OB/GYN clinicians with the latest molecular diagnostic testing, allowing for fast, accurate and comprehensive screenings across a broad spectrum of pathogens and genetically influenced conditions.

Collection: *Swab /Urine*

Transport: *BioTeke VTM /Sterile Urine Tube*

Stability: *Ambient 3 days*

Symptoms

- Menstrual Irregularities
- Pelvic Pain endometriosis
- Vaginal Discharge or Itching
- Menopause-related Symptoms:
 - menopause, such as hot flashes, mood changes, or vaginal dryness

PATHOGENS DETECTED

Atopobium vaginae

Candida albicans Candida

glabrata Candida

parapsilosis Candida

tropicalis BVAB2

Mycoplasma hominis

Gardnerella vaginalis

Lactobacillus crispatus

Lactobacillus gasseri

Lactobacillus iners

Lactobacillus jensenii

Megasphaera 1

Megasphaera 2

Mobiluncus curtisii

Mobiluncus mulieris

Ureaplasma urealyticum

Prevotella bivia

Enterococcus faecalis

Escherichia coli

Staphylococcus aureus

Streptococcus agalactiae

Specimen Validity

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Wound Panel (WP)

PATHOGENS DETECTED

Acinetobacter baumannii

Bacteroides spp.

Citrobacter freundii & braakii

Enterobacter aerogenes

Enterobacter cloacae

Escherichia coli

Enterococcus faecalis

Enterococcus faecium

Klebsiella oxytoca

Klebsiella pneumonia

Morganella morganii

Pseudomonas aeruginosa

Proteus mirabilis

Proteus vulgaris

Staphylococcus aureus

Streptococcus pyogenes

Specimen Validity

The wound panel is a comprehensive panel detecting, by Molecular Technique, the most common pathogens found in infected wounds and soft skin. Our panel can quickly manage skin and soft tissue infections, avoiding delays in diagnosis and preventing infections from progressing.

Collection: *Swab*

Transport: *BioTeke VTM*

Stability: *Ambient 3 days*

Symptoms

- Increased Pain
- Redness and Swelling
- Pus or Discharge
- Delayed Healing
- Increased Wound Size
- Increased Temperature: In some cases, wound infections can lead to localized or systemic fever. The affected person may experience an elevated body temperature.

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Sexually transmitted infections Panel (STI)

The global prevalence of sexually transmitted diseases (STIs) is over 1 million cases acquired every day. STI Panel employs real-time PCR technology offering, high sensitivity, wide range and quick turnaround detection of common sexually transmitted infections.

Collection: *Urine*

Transport: *Sterile Urine Tube*

Stability: *Ambient 3 days*

Symptoms

- Genital itching, burning, or irritation.
- Unusual discharge from the penis, vagina, or anus.
- Pain or discomfort during urination or sex.
- Sores, blisters, or ulcers in the genital area.
- Swollen lymph nodes in the groin.
- Rash or redness on the genitals.
- Flu-like symptoms, such as fever, fatigue, or body

PATHOGENS DETECTED

Gardnerella vaginalis

Chlamydia trachomatis

Neisseria gonorrhoeae

Mycoplasma genitalium

Mycoplasma hominis

Ureaplasma urealyticum

Trichomonas vaginalis

Genital Ulcer

Herpes simplex 1

Herpes simplex 2

Haemophilus ducreyi

Treponema pallidum

Specimen Validity

Gastrointestinal Testing Panel (GI)

PATHOGENS DETECTED

Adenovirus

Campylobacter jejuni

Campylobacter upsaliensis

Campylobacter coli

Clostridioides difficile Toxin A

Clostridioides difficile Toxin B

Helicobacter pylori

Astrovirus

Rotavirus

Salmonella spp

Norovirus GI

Norovirus GII

Enteroinvasive Escherichia coli

Enteroaggregative Escherichia coli

Enterotoxigenic Escherichia coli

Enterohemorrhagic Escherichia coli

Yersinia enterocolitica

Escherichia coli

Specimen Validity

Infectious gastroenteritis is a disease in which the small and/ or large intestines become severely inflamed.

Infectious gas- troenteritis is a disease in which the small and/or large intes- tines become severely inflamed.

Gastrointestinal Pathogens Panel by PCR Intended for identification of nucleic acids from multiple bacteria, viruses, and parasites directly from stool samples in transport media obtained from individuals with signs and/or symptoms of gastrointestinal infection.

Collection: *Stool / swab*

Transport: *Sterile stool cup*

Stability: *Ambient 3 days*

Symptoms

- Diarrhea
- Abdominal pain
- Nausea and vomiting
- Fever
- Fatigue
- Loss of appetite
- Bloating and gas
- Blood in stool
- Weight loss

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Antibiotic Resistance

Extended Panel (ABR)

The Antibiotic Resistance Panel is a specialized diagnostic tool that utilizes molecular techniques to detect the presence of specific antibiotic resistance genes. This panel is designed to identify 31 different antibiotic resistance genes, providing a comprehensive assessment of potential antibiotics resistance

Temoniera-β-lactamase (TEM)	Oxacillinase Group (OXA 2)
Sulphydryl Variable-β-lactamase (SHV)	Oxacillinase Group (OXA 48)
Klebsiella pneumoniae carbapenemase (KPC)	Methicillin Resistance (mecA)
CefoTaXime-M-β-lactamase (CTXM 1)	Sulfonamide-Resistant isolate (Sul 1)
CefoTaXime-M-β-lactamase (CTXM 2)	Sulfonamide-Resistant isolate (Sul 2)
CefoTaXime-M-β-lactamase (CTXM 8)	Sulfonamide-Resistant isolate (Sul 3)
CefoTaXime-M-β-lactamase (CTXM 9)	Erythromycin Resistance Gene (ermB)
CefoTaXime-M-β-lactamase (CTXM 25)	Plasmid-Mediated Quinolone Resistance Determinant
New Delhi metallo-β-lactamase (NDM)	Vancomycin Resistance (Van A)
Verona integron-encoded metallo-β-lactamase (VIM)	Vancomycin Resistance (Van B)
Verona integron-encoded metallo-β-lactamase (VIM 7)	Vancomycin Resistance (VanC 1)
Verona integron-encoded metallo-β-lactamase (VIM 13)	Vancomycin Resistance (VanC 2-4)
Cephamicinase (CMY 1)	
Cephamicinase (CMY 2)	
Cefoxitin-Hydrolyzing Class C-β-lactamase (FOX)	
Oxacillinase Group (OXA 1)	

Medical Laboratory Services Nevada is a Next-Gen
High Complexity Molecular Testing laboratory
committed to Accurate testing with fast turnaround

A high-complexity CAP accredited laboratory

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