

Our products are dedicated to be used in upstream processing, fermentation / cell cultivation and downstream processing of biotechnological API.

## We are aware of your **special requirements.**

Therefore our products are chemically and microbiologically controlled including bacterial endotoxin as well as all elemental impurities. Although they are used as technical processing aids and cultivation substrates, we apply GMP standards as used for parenteral excipients and API's.

### **We specially provide**

- absolutely constant product quality (change control, traceability) as required by highly complex biological systems
- product processing under clean room conditions
- complete analytics according to cell cultivation requirements
- preparation of tailor-made mixtures, e.g. trace elements, media components, buffers, etc.
- packing the products in application-specific quantities (one unit per fermentation batch)
- REACH management as mandatory for technical applications

### **Additionally our standards include**

- free flowing or easy dosing properties
- micro milled product for optimization of solubility
- customized packaging also in smaller containers (PE-buckets, Curtec® containers, Hobbock etc.)
- consolidated raw material supplier management and qualification by auditing
- competitive pricing for comparatively small product quantities by making use of our consolidated purchasing concept
- change control management
- safety stocks on customer request
- international subsidiaries with storage facilities
- expert technical support



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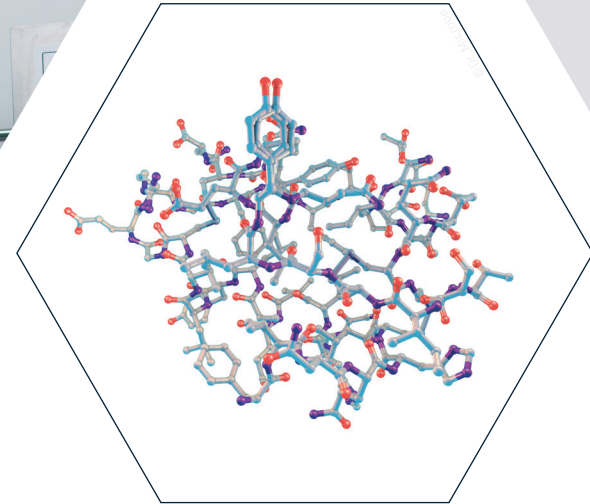
Kirsch Pharma is a global company with worldwide operations, specialized in supplying premium quality raw materials and formulations according to individual requirements for the pharmaceutical, nutritional, veterinary and cosmetic industries.

## Our position in **Pharmaceutical Biotechnology.**

Kirsch Pharma has acquired sound experience in providing high quality compounds to global players in "red" i.e. pharmaceutical biotechnology.

### **This includes the production of**

- recombinant pharmaceutical products by cell cultivation and their purification like insulin, blood-clotting factors, human growth factor, monoclonal antibodies for cancer treatment
- high-quality biotechnological active ingredients and auxiliaries by fermentation like macrolides, antibiotics, hormones, cytostatic and virostatics and vaccines



## Our products used in **Pharmaceutical Biotechnology.**

### **Up-stream processing**

- C, N, P- resources  
(Dextrose, Sucrose, Phosphates, Urea)
- Trace elements and mixes
- Buffers for pH regulation (Acetic Acid, Sodium Acetate)
- Growth factors (Sugar Alcohols, Amino Acids, Vitamins, Nucleotides, Betaine, Choline)
- Ectoines (Betaine, Choline)
- Inhibitors
- Inductors
- Activators
- Skeleton Mixes



### **Down-stream processing**

- Urea
- Denaturation / Renaturation  
(Guanidinium Hydrochlorid, N-Lauroylsarcosine, Cetrimonium Bromide (CTAB), Cyclodextrin)
- Ammonium and Sodium Sulfate for precipitation
- Stabilizers (Cystine, Dithiothreitol, Dithioerythritol, Imidazol, Glutathione)
- Detergents (Tween, SDS, DOC, CHAPS)
- Buffer (TRIS, EDTA, MOPS, MES, HEPES)
- Dextranes, PEG, Aerosil
- Buffer Mixes (e.g. PBS. TE. TES)