

サンザイム

Sanzyme Biomolecules

Fermentation **EXPERTISE** Since 1969

Biomolecules is a division of Sanzyme Biologics, which leverages fermentation to produce rare or complex bioproducts and excels in their development and production. Our products find an application in fields of biotherapeutics, foods and industrial proteins or enzymes. We have the know how to take a product from a concept to commercial production and deliver tailored solutions to suit your needs. Partner with us to benefit from exceptional expertise and reliability in biomolecule production

Five decades of fermentation expertise

**Expertise with a wide array
of expression/host systems**

Produced in a cGMP & WHO GMP facility

Scalability from lab to cGMP scale



Semaglutide *(Under development)*

Semaglutide, a glucagon-like peptide-1 (GLP-1) analogue used to treat diabetes and long-term weight management

Source: Produced via recombinant DNA technology in *Escherichia coli*. Followed by chemical modifications (Semi synthesis)

Molecular Formula: C₁₈₇H₂₉₁N₄₅O₅₉

Molecular Weight: ~4113 Da

CAS Number: 910463-68-2

Sequence: Modified 31-amino acid analogue of human GLP-1 with strategic substitutions for increased half-life

Application: Used in the treatment of type 2 diabetes and obesity

Semaglutide Precursor

The Recombinant P29 peptide is a critical intermediate in the synthesis of Semaglutide

P29 offers superior consistency, purity, and scalability compared to chemically synthesized counterparts, enabling high-yield and cost-effective manufacturing of Semaglutide

Length: 29 amino acids

Sequence: Proprietary (aligned with the N-terminal sequence of Semaglutide)

Molecular Weight: Approximately 3175 Da

Purity: ≥ 95% by HPLC

CAS Number: 1169630-82-3

Format: Lyophilized powder

Source: Recombinant *Escherichia coli* expression system

L-Asparaginase

L-Asparaginase is an enzyme commonly used in the treatment of acute lymphoblastic leukemia (ALL) and other hematological malignancies

- Maintains high enzymatic activity of NLT 120 units/mg and specific activity NLT 250 IU/mg
- 100% Animal origin-free (AOF)
- Available as lyophilized powder

Purity: > 97%

CAS Number: 9015-68-3

Application: Treatment of cancer, Therapeutic Enzyme Replacement and as a food processing aid to reduce acrylamide formation



Injectable (API)



Tablets (API)



Intermediates

CDMO & CMO Services

With over five decades of scientific and technical expertise, we support pharmaceutical and biotechnology clients through every stage of development and GMP manufacturing. Scalable production from milligram to kilogram quantities for R&D, preclinical, and clinical-stage material

Microbial Fermentation

End-to-end GMP manufacturing for recombinant and natural proteins, peptides, metabolites, therapeutic proteins and more

Synthetic Platform / Manufacturing

Supports with a wide range of synthetic and semi-synthetic peptide services, from development to GMP manufacturing.

Fill & Finish Services

Our state-of-the-art aseptic fill-finish facility is purpose-built for the formulation and filling of pre-filled syringes (PFS), supports 1 mL and 3 mL fill volumes

Capabilities

cGMP Pilot & Manufacturing Unit

High-capacity equipment supporting advanced, large-scale bioprocessing

Fermentation & Upstream

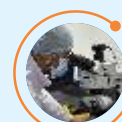
- Fermenters: 14 L, 60 L, 2 × 100 L, and 2 × 1000 L
- Feed vessels: 2 × 500 L

Downstream & Processing

- Centrifuge, continuous mode - 250 L/hr
- High-pressure homogenizer - 20 KPSI
- High-flow microfiltration unit - 500 L/hr
- High-flow ultrafiltration unit - 500 L/hr
- High-flow chromatography system-600 L/hr

Purification Systems

- 2 × 50 mm DAC columns and preparative HPLC system for purification process development
- 150 mm DAC column and preparative HPLC system for pilot- to production-scale purification
- AKTA purification system
- BioProcess glass columns (100-300 mm)



R&D



Pilot



Production