

Insulin Protein, Bovine, Recombinant

General Information

Synonyms:	Insulin
Protein Construction:	Phe25-Ala54 & Gly85-Asn105
Species:	Bovine
Expression Host:	P. pastoris (Yeast)
Accession:	P01317
Molecular Weight:	5.72 kDa (Predicted); 6 kDa (Reducing conditions)

QC Testing

Biological Activity:	ED 50 < 1.00 µg/ml as determined by a dose-response proliferation assay using human MCF7 epithelial cells. Based on the ED 50, the calculated specific activity is approximately > 1 × 10 ³ IU/mg. It is recommended to experimentally determine the optimal concentration for each specific application by performing a dose response assay.
Purity:	≥ 95% as determined by SDS-PAGE
Endotoxin:	< 0.1 EU/µg of protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 µm filtered solution in 10 mM Citric acid, pH 2.0-3.0.

Preparation and Storage

Reconstitution:	Before opening, centrifuge the vial briefly to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH ₂ O up to 1 mg/ml.
Stability & Storage:	Upon receiving, the lyophilized product remains stable for up to 6 months at lower than -70 °C. Upon reconstitution, the product is stable for up to 1 week at 4 °C or up to 3 months at -20 °C. Avoid repeated freeze-thaw cycles by making single-use aliquots before the solution is stored at -20 °C. <small>Actual storage temperature shall be subject to the COA.</small>

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Insulin is a peptide hormone produced exclusively by beta cells of the pancreatic islets. The mature form of insulin is a heterodimer of a B chain and an A chain linked by two disulfide bonds. The amino acid sequence of insulin is strongly conserved and varies only slightly between species. Bovine insulin differs from human in only three amino acid residues, and porcine insulin in one. Insulin is considered to be the main anabolic hormone of the body and regulates the metabolism of carbohydrates, fats and protein by promoting the absorption of glucose from the blood into liver, fat and skeletal muscle cells. Decreased or absent insulin activity results in diabetes.

Recombinant insulin has been widely used for treatment of diabetes.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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