

Porcine Insulin

Cat. No. INS-41P **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Porcine Insulin produced in <i>Porcine Pancreas</i> is a two chain, glycosylated polypeptide chain containing 51 amino acids and having a molecular mass of 5777 Dalton. The α and β chains are joined by two interchain disulfide bonds. The α chain contains an intrachain disulfide bond. Insulin regulates the cellular uptake, utilization, and storage of glucose, amino acids, and fatty acids and inhibits the breakdown of glycogen, protein, and fat. Porcine Insulin is purified by proprietary chromatographic techniques.
Species	Pig
Source	Porcine Pancreas
Description	Insulin decreases blood glucose concentration. it increases cell permeability to monosaccharides, amino acids and fatty acids. it accelerates glycolysis, the pentose phosphate cycle, and glycogen synthesis in liver.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Formulation	The Insulin Porcine was lyophilized from a concentrated (1mg/ml) solution with no additives.
Solubility	It is recommended to reconstitute the lyophilized Insulin in sterile 18M Ω -cm H ₂ O not less than 100g/ml, which can then be further diluted to other aqueous solutions.

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Biological Activity	26 units/mg.
Storage	Lyophilized Insulin although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Insulin should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.
GENE INFORMATION	
Gene Name	INS insulin [<i>Sus scrofa</i>]
Synonyms	proinsulin;preproinsulin; insulin; INS
Gene ID	397415
mRNA Refseq	NM_001109772
Protein Refseq	NP_001103242
UniProt ID	P01315
Pathway	Insulin signaling pathway; Maturity onset diabetes of the young; Prostate cancer; Regulation of actin cytoskeleton; Regulation of autophagy; Type I diabetes mellitus; Type II diabetes mellitus; mTOR signaling pathway

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Computer-generated image of six insulin molecules assembled in a hexamer, highlighting the threefold symmetry, the zinc ions holding it together, and the histidine residues involved in zinc binding. Insulin is stored in the body as a hexamer, while the active form is the monomer.



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