

Recombinant Human Insulin

Cat. No. INS-5308H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Insulin is a two chain, non-glycosylated polypeptide chain containing 51 amino acids and has a MW = 5.8 kDa.
Species	Human
Source	E.coli
Description	INS is a hormone central to regulating carbohydrate and fat metabolism in the body. INS causes cells in the liver, muscle, and fat tissue to take up glucose from the blood, storing it as glycogen in the liver and muscle. INS stops the use of fat as an energy source by inhibiting the release of glucagon. With the exception of the metabolic disorder diabetes mellitus and Metabolic syndrome, INS is provided within the body in a constant proportion to remove excess glucose from the blood, which otherwise would be toxic.
Form	Lyophilized from a sterile, concentrated (1 mg/ml) solution with no additives.
Molecular Weight	5.8 kDa
Purity	>98.0% as determined by RP-HPLC and SDS-PAGE.
Endotoxin Level	<0.1 ng/g of recombinant human Insulin
Biological Activity	28 units/mg

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Reconstitution	Centrifuge vial prior to opening. Add sterile 0.005 N HCL to the vial to fully solubilize the protein to a concentration not more than 1 mg/ml.
Storage	Lyophilized product is stable at room temperature for 3 weeks, but it is recommended to store the lyophilized product desiccated at -20°C to -80°C. Upon reconstitution, protein should be stored at 2-4°C for one week and for future use at -20°C to -80°C. Add a carrier protein (0.1% HSA or BSA) as a stabilizer for long term storage. Please note that the addition of any carrier protein into this product may produce unwanted endotoxin. This depends upon the particular application employed. Avoid repeated freeze-thaw cycles.
Official Symbol	INS
GENE INFORMATION	
Gene Name	INS insulin [Homo sapiens]
Synonyms	INS; insulin; ILPR; IRDN; IDDM2; MODY10; proinsulin; OTTHUMP00000011161; OTTHUMP00000011162; OTTHUMP00000196036; OTTHUMP00000196038; OTTHUMP00000217519
Gene ID	3630
mRNA Refseq	NM_000207
Protein Refseq	NP_000198
MIM	176730
UniProt ID	P01308

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Chromosome Location	11p15.5
Pathway	ATF-2 transcriptionfactor network; Adipogenesis; Arf6 trafficking events; Diabetes pathways;FOXA2 and FOXA3 transcription factor networks; Folate Metabolism; IRS activation;Insulin receptor recycling; Insulin signaling pathway; Maturity onsetdiabetes of the young; Progesterone-mediated oocyte maturation; Regulation ofInsulin Secretion; SHC-related events; Type I diabetes mellitus; mTORsignaling pathway
Function	hormone activity;insulin receptor binding; insulin-like growth factor receptor binding;protein binding
Computer-generatedimage of six insulin molecules assembled in a hexamer, highlighting thethreefold symmetry, the zinc ions holding it together, and the histidineresidues involved in zinc binding. Insulin is stored in the body as ahexamer, while the active form is the monomer.	
	