

Insulin

human, recombinant, *E. coli*

Cat. No.	Amount
PR-477	25 mg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form

Lyophilized.

Solubility

It is recommended to reconstitute the lyophilized Insulin in sterile 0.005N HCl not more than 1 mg/ml. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Activity

Specific activity equals 35,715 IU/mg.

Molecular Weight

6 kDa

Purity

≥ 95% by SDS-PAGE and RP-HPLC

Description

Insulin is the most important hormone that inhibits gluconeogenesis. It acts predominantly by suppressing the expression of the genes for the key gluconeogenic enzymes pyruvate carboxykinase (PEPCK) and glucose-6-phosphatase (G-6-Pase).

Insulin is normally secreted by the beta cells (a type of islet cells) of the pancreas.

The development of insulin resistance is an important mechanism by which obesity leads to the development of metabolic and vascular diseases, such as type 2 diabetes, hypertension, dyslipidemia, and cardiovascular diseases, among other medical problems.

Recombinant human Insulin produced in *E. coli* is a two chain, non-glycosylated polypeptide chain containing 51 amino acids and having a molecular mass of 5.8 kDa.

Recombinant Insulin is purified by proprietary chromatographic techniques.

Selected References:

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Saukkonen *et al.* (2004) Dose-dependent effects of recombinant human insulin-like growth factor (IGF)-I/IGF binding protein-3 complex on overnight growth hormone secretion and insulin sensitivity in type 1 diabetes. *J. Clin. Endocrinol. Metab.* **89**:4634.

Adachi *et al.* (2004) A case of human insulin allergy induced by short-acting and intermediate-acting insulin but not by long-acting insulin. *Int. J. Dermatol.* **43**:597.

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Rave *et al.* (2004) Inhaled micronized crystalline human insulin using a dry powder inhaler: dose-response and time-action profiles. *Diabet. Med.* **21**:763.

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