

Recombinant human Proinsulin protein

Catalog Number: ATGP3817

PRODUCT INFORMATION

Expression system

E.coli

Domain

25-110aa

UniProt No.

P01308

NCBI Accession No.

NP_000198

Alternative Names

Insulin preproprotein, IDDM, IDDM1, IDDM2, ILPR, IRDN, MODY10

PRODUCT SPECIFICATION

Molecular Weight

11.8 kDa (109aa) confirmed by MALDI-TOF

Concentration

0.5mg/ml (determined by absorbance at 280nm)

Formulation

Liquid in. Phosphate-Buffered Saline (pH 7.4) containing 10% glycerol

Purity

> 95% by SDS-PAGE

Endotoxin level

< 1 EU per 1ug of protein (determined by LAL method)

Biological Activity

Measured in a cell proliferation assay using MCF7 human breast cancer cell. The ED50 range \leq 4ug/ml.

Tag

His-Tag

Application

SDS-PAGE, Bioactivity

Storage Condition

Can be stored at +2C to +8C for 1 week. For long term storage, aliquot and store at -20C to -80C. Avoid repeated freezing and thawing cycles.

BACKGROUND

Description

INS, also known as insulin preproprotein, is a biologically inactive precursor to the biologically active endocrine

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hormone insulin. Insulin is an essential hormone for maintaining metabolic homeostasis in the body. To make fully bioactive insulin, pancreatic beta cells initiate synthesis of INS. It is converted into proinsulin by signal peptidases, which remove its signal peptide from its N-terminus. Finally, proinsulin is converted into the bioactive hormone insulin by removal of the C-peptide. Recombinant human INS, fused to His-tag at N-terminus, was expressed in *E. coli* and purified by conventional chromatography techniques.

Amino acid Sequence

<MGSSHHHHHH SSGLVPRGSH MGS>FVNQHLC GSHLVEALYL VCGERGFYF PKTRREAEDL QVGQVELGGG PGAGSLQPLA LEGSLQKRGV VEQCCTSICS LYQLENYCN

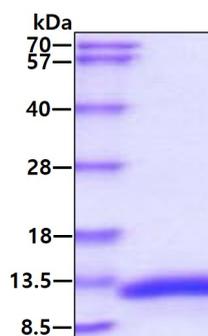
General References

Sun J., et al. (2015) *Mol Aspects Med.* 42:105-118.

Liu M., et al. (2014) *Vitam Horm.* 95:35-62.

DATA

SDS-PAGE



3ug by SDS-PAGE under reducing condition and visualized by coomassie blue stain.

Biological Activity

Human Proinsulin in a cell proliferation assay using MCF7 human breast cancer cell. The ED50 range $\leq 4\mu\text{g/ml}$.

