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Recombinant Human Long-[Arg3]Insulin-Like Growth Factor 1 (IGF-1)

Catalog number	Sizes	Species	Protein Accession number
RB-01-0001P	10, 50, 100 µg	Human	3LRI_A

Synonyms

Somatomedin C, IGF-I, IGFI, IGF1, IGF-IA, Mechano growth factor, MGF, insulin-like growth factor 1 (somatomedin C).

Description

Human Long-[arg3] Insulin like growth factor-1 (IGF-1), also called as IGF long R3 protein. IGF1 mediates many of the growth-promoting effects of growth hormone. It also stimulates both proliferation and differentiation of myogenic precursor cells. *In vivo* IGFs are bound to one of the members of a family of six high-affinity IGF binding proteins (IGFBP 1-6) that regulate their biological activity. One of these binding proteins, IGFBP-3, affects cell proliferation via both IGF-dependent and IGF-independent mechanisms and it has generally been shown to suppress proliferation of cultured cells.

Preparation

The full-length of human IGF long R3 gene (encoding a polypeptide of 83 amino acids) was cloned and expressed in *Escherichia coli*. The refolded recombinant his-tagged protein was purified by immobilized metal ion affinity chromatography.

Source

Recombinant histidine-tagged protein, purified from *Escherichia coli*.

Predicted Molecular Mass

~9.5 kDa with the 6×histidine tag.

Formulation

Recombinant IGF-1 is lyophilized from a 0.2 µm filtered 20 mM Tris-HCl (pH 8.5) solution with the protein concentration of 430 µg/mL.

Stability & Storage

- Lyophilized product is stable at room temperature for 3 weeks, it is recommended to be stored desiccated below -20°C in a manual defrost freezer.
- **Reconstitution:** briefly spin the vial prior to opening and bring the contents to the bottom. It is recommended to reconstitute the lyophilized product with sterile PBS not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.
- Upon reconstituted, the protein should be stored at 4°C for one week. For long term storage, it is recommended to add a carrier protein (0.1% HSA or BSA) and store at -20 or -80°C. **Please avoid repeated freeze-thaw cycles.**

Purity

>95%, determined by SDS-PAGE and stained with Coomassie blue.

References

1. Laajoki LG, et al. (2000) Solution structure and backbone dynamics of long-[Arg(3)]insulin-like growth factor-I. *J Biol Chem.* 7; 275(14):10009-15.
2. Richards RG, et al. (1998) Insulin-like growth factor-1 (IGF-1) receptor-insulin receptor substrate complexes in the uterus. Altered signaling response to estradiol in the IGF-1(m/m) mouse. *J Biol Chem.* 8;273(19):11962-9.
3. Valverde AM, et al. (1998) Insulin receptor substrate (IRS) proteins IRS-1 and IRS-2 differential signaling in the insulin/insulin-like growth factor-I pathways in fetal brown adipocytes. *Mol Endocrinol.* 12(5):688-97.

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