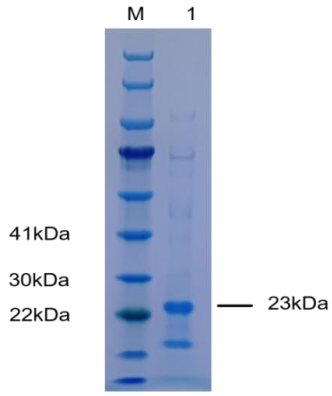
Human Long arginine 3-IGF-1 (IGF1-LR3) Protein, Recombinant

1. For Sale

Product Name	Catalog #	Size
Human Long arginine 3-IGF-1 (IGF1-LR3) Protein,Recombinant	P01I0420P-T2	10ug
		50ug
		500ug
		1mg

2. Product Description

Other Names	Mechano growth factor (MGF), Somatomedin-C, IGF1, IGF-I, IGF1A, IGFI
Protein & NCBI Number	P05019, NM_000618
Host	E.coli
Express Region	Gly49-Ala118
Protein Sequence	GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSRRAPQTGIVDECCFRSC DLRRLEMYCAPLKPAKSA
Molecular Weight	The protein molecule consists of 191 amino acids (including the fusion tag), with a predicted molecular weight of 21.4 kDa and an actual molecular weight of 22-24kDa.
Fusion Tag	6xHis-SUMO (N-terminus)
Purity	≥85% SDS-PAGE
Physical Property	Liquid
Components	0.01M PBS+20% glycerol, sterile solution.
Storage & Stability	After aliquoting, the stability of the samples can be maintained for up to 6 months at -20°C to -80°C, avoiding repeated freeze-thaw cycles.
Applications	Antibody preparation, immunoassay (ELISA, WB), subcellular localization and interaction protein identification, etc.
Lead Time	5 to 10 business days; 2 to 3 days for stock products
Figure. SDS-PAGE	 Bis-Tris (MOPS) SDS-PAGE

3. Storage and Transportation

Transport at 2-8°C, product is stable for up to twelve months from date of receipt under sterile conditions at -20°C to -80°C.

4. Notes

This product is for research use only. Please wear laboratory attire and disposable gloves when handling.

5. Background

Insulin-like Growth Factor 1 (IGF-1), also known as somatomedin C, is a protein encoded by the human gene IGF1.

Due to its unregulated insulin-like activity, it is also referred to as nonsuppressible insulin-like activity (NSILA). The IGF-1 protein consists of a single peptide chain composed of 70 amino acid residues and three intramolecular disulfide bonds, with a molecular weight of 7,649 daltons, and it can be secreted into the extracellular space. Originally isolated from plasma, it shares structural and functional similarities with insulin but possesses greater growth-promoting activity. It stimulates glucose transport in osteoblasts and is more efficient than insulin in DNA and glycogen synthesis and uptake. It acts as a ligand for IGF1R, binding to its α subunit and initiating tyrosine phosphorylation on tyrosine residues of the β subunit of tyrosine kinase, thereby activating downstream PI3K-AKT/PKB and Ras-MAPK pathways.

6. References

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2) Jansen M, van Schaik FM, Ricker AT, Bullock B, Woods DE, Gabbay KH, Nussbaum AL, Sussenbach JS, Van den Brande JL. Sequence of cDNA encoding human insulin-like growth factor I precursor. Nature. 1983, 306 (5943): 609–11.

3) Salmon WD, Daughaday WH. A hormonally controlled serum factor which stimulates sulfate incorporation by cartilage in vitro. J Lab Clin Med. 1957, 49 (6): 825–36..

4) Rinderknecht E, Humbel RE. The amino acid sequence of human insulin-like growth factor I and its structural homology with proinsulin. J Biol Chem. 1978, 253 (8): 2769–2776.

5) Fujita M, et al. Cross-talk between integrin alpha6beta4 and insulin-like growth factor-1 receptor (IGF1R) through direct alpha6beta4 binding to IGF1 and subsequent alpha6beta4-IGF1-IGF1R ternary complex formation in anchorage-independent conditions.J. Biol. Chem. 287:12491-12500 (2012)