Catalog Number: HZ-1322-GMP

Data Sheet

HumanKine® recombinant human IGF-I protein- GMP grade

Animal Component-Free	Human cell expressed	Tag-Free	Endotoxin Free

Product Description

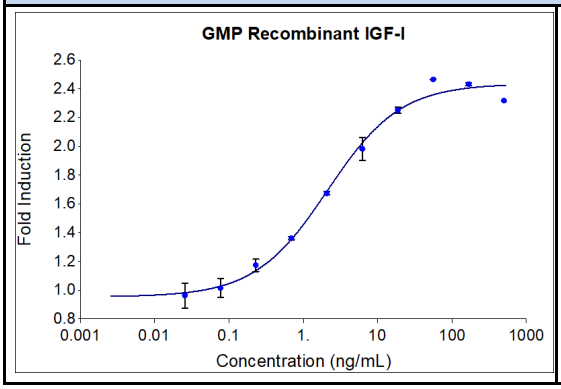
The Insulin like growth factor-1, also known as Somatomedin-C is a growth factor which is structurally related to insulin and is an important regulator of growth and differentiation in various tissues and cell systems. Human IGF-1 is synthesized as two precursor isoforms with N- and alternate C-terminal propeptide. The two precursor isoforms are differentially expressed by various tissues. The proteolytic cleavage of the N- and C-terminal regions results in the mature IGF-1 protein which is identical between isoforms. IGF-1 binds to IGF-1 receptor and induces receptor autophosphorylation. This further phosphorylates Insulin receptor substrate -1 (IRS-1) and activates various downstream signaling pathways including the PI3-AKT, MAPK etc. (PMID: 17354613, 17113337, 29535161)

Alternative Names	H-IGF-1, IGF, IGF-I, IGF-IA, IGF-IB, IGF1A, IGFIa, Insulin like growth factor, insulin-like growth factor 1 (somatomedin C), Insulin-like growth factor I, insulin-like growth factor IB, M-IGF-1, Mechano growth factor, MGF, OTTHUMP00000195084, R-IGF-1, Somatomedin C, Somatomedin-C
Accession Number	P05019
Source	Human Embryonic Kidney cells (HEK293). HEK293-derived IGF-I protein
Species Reactivity	human
Adventitious Virus	Master Cell Bank tested Negative for Adventitious Viruses

Specifications

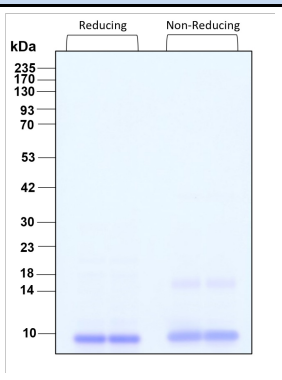
Test	Method	Specification
Activity	Dose-dependent proliferation of the MCF-7 human breast cancer cell line.	2-14 ng/mL
Molecular Mass	SDS-PAGE	9-10 kDa reduced and non-reduced, monomer, non-glycosylated
Purity	SDS-PAGE	> 95%
Endotoxin	LAL	< 0.1 EU/ug
Mycoplasma	PCR	Not Detected

Activity Data



GMP recombinant human IGF-I (Cat no: HZ-1322-GMP) stimulates dose-dependent proliferation of the MCF-7 human breast cancer cell line. Cell number was quantitatively assessed by PrestoBlue® Cell Viability Reagent. MCF-7 cells were treated with increasing concentrations of recombinant IGF-I for 96 hours. The EC50 was determined using a 4-parameter non-linear

SDS-PAGE



Purity of recombinant human IL-12 beta was determined by SDS- polyacrylamide gel electrophoresis. The protein was resolved in an SDS- polyacrylamide gel in reducing and non-reducing conditions and stained using Coomassie blue.

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Preparation	
Shipping Temperature	ambient temperature
Formulation	50 mM Acetate pH 4.0
Reconstitution	Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein to 0.2 mg/mL in sterile 1x PBS containing 0.1% endotoxin-free recombinant human serum albumin (HSA). Gently swirl or tap vial to mix.

	Product Form	Temperature Conditions	Storage Time (From Date of Receipt)
Stability and Storage	Lyophilized	-20°C to -80°C	Until Expiry Date
	Lyophilized	Room Temperature	2 weeks
	Reconstituted as per CofA	-20°C to -80°C	6 months
	Reconstituted as per CofA	4°C	1 week
	Avoid repeated freeze-thaw cycles.		

Proteintech GMP Quality Policy
HumanKine® GMP Proteins

Invitro recombinant protein production can be prone to variability due to various reasons ranging from quality of raw materials to inconsistency in the process. Therefore, HumanKine®, a proteintech brand's GMP proteins are produced and tested under an ISO 13485 certified quality management system in a clean room facility. Proteintech manufactures the GMP HumanKine® products according to the applicable sections in the following documents: USP Chapter 1043 (Ancillary Materials for Cell, Gene, and Tissue-Engineered Products, USP Chapter 92 (Growth Factors and Cytokines Used in Cell Therapy Manufacturing), WHO TRS, No. 822, 1992 Annex 1 (Good Manufacturing Practices for Biological Products), Ph. Eur. General Chapter 5.2.12, and EudraLex – Volume 4 – Part IV (Guidelines on GMP specific to ATMPs). Proteintech strives to achieve the utmost quality GMP raw material ensuring all applicable guidelines are taken into consideration.

The QMS is built to provide our customers with consistent and pure product delivered by documented processes, qualified personnel, validated processes, qualified equipment, qualified vendors, and a stringent final product release process. Although the final product release process is important, Proteintech performs in-process QC steps after each major manufacturing stage. Production records and facilities may be available for an inspection by approved personnel.

Our GMP policy covers all the aspects of production; from raw materials, facility, equipment, and Instruments to training and personal hygiene of staff. It also guarantees that the process is explicit, validated and well documented for transparency and traceability.

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