

Recombinant Human IGF1 protein, Fc-tagged

Cat. No. IGF1-384H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human IGF1 protein (Gly49-Ala118), fused to human IgG1 Fc tag at N-terminus, was expressed in human 293 cells (HEK293).
Species	Human
Source	HEK293
ProteinLength	70
Description	Insulin-like growth factor 1 (IGF-1) is also known as somatomedin C, IGF1A, IGFI, sulfation factor, and is a hormone similar in molecular structure to insulin. It plays an important role in childhood growth and continues to have anabolic effects in adults. A synthetic analog of IGF-1, mecasermin is used for the treatment of growth failure. IGF-1 consists of 70 amino acids in a single chain with three intramolecular disulfide bridges. IGF-1 has a molecular weight of 7649 daltons. IGF-1 is produced primarily by the liver as an endocrine hormone as well as in target tissues in a paracrine/autocrine fashion. IGF-1 binds to at least two cell surface receptors: the Insulin-like growth factor 1 receptor, abbreviated as "IGF1R", and the insulin receptor. The IGF-1 receptor seems to be the "physiologic" receptor - it binds IGF-1 at significantly higher affinity than the IGF-1 that is bound to the insulin receptor. Like the insulin receptor, the IGF-1 receptor is a receptor tyrosine kinase - meaning it signals by causing the addition of a phosphate molecule on particular tyrosines. Its primary action is mediated by binding to its specific receptor IGF1R, present on many cell types in many tissues. Binding to the IGF1R, a receptor tyrosine kinase, initiates intracellular

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signaling; IGF-1 is one of the most potent natural activators of the AKT signaling pathway, a stimulator of cell growth and proliferation, and a potent inhibitor of programmed cell death. Insulin-like growth factor 1 has been shown to bind and interact with all the IGF-1 Binding Proteins (IGFBPs), of which there are six (IGFBP1-6). Specific references are provided for interactions with IGFBP3, IGFBP4 and IGFBP7.

Form	Lyophilized from 0.22 um filtered solution in 50 mM Tris, 100 mM Glycine, pH7.5, 10% trehalose.
Molecular Mass	The protein has a calculated MW of 35.0 kDa. The protein migrates as 40 kDa under reducing (R) condition (SDS-PAGE).
Endotoxin	Less than 1.0 EU per ug by the LAL method.
Purity	>98% as determined by SDS-PAGE.
Storage	For long term storage, the product should be stored at lyophilized state at -20 centigrade or lower. Please avoid repeated freeze-thaw cycles. This product is stable after storage at: -20 centigrade to -70 centigrade for 12 months in lyophilized state; -70 centigrade for 3 months under sterile conditions after reconstitution.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.2 ug/ul. Centrifuge the vial at 4°C before opening to recover the entire contents.

GENE INFORMATION

Gene Name IGF1

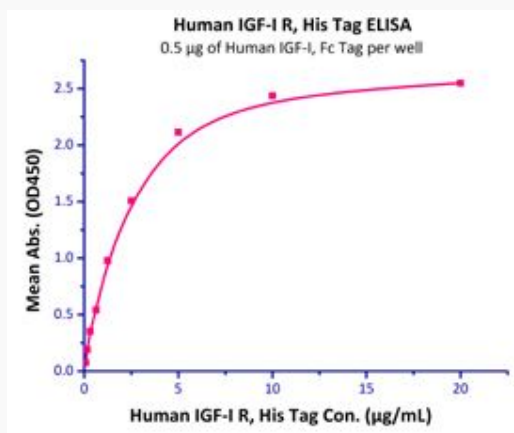
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Official Symbol	IGF1
Synonyms	IGF1; insulin-like growth factor 1 (somatomedin C); insulin-like growth factor 1; IGF1A; MGF; IGF-IA; IGF-IB; somatomedin-C; mechano growth factor; insulin-like growth factor I; insulin-like growth factor IA; insulin-like growth factor IB; IGFI; IGF-I
Gene ID	3479
mRNA Refseq	NM_000618
Protein Refseq	NP_000609
MIM	147440
UniProt ID	P05019

Bioactivity-ELISA of IGF1-384H



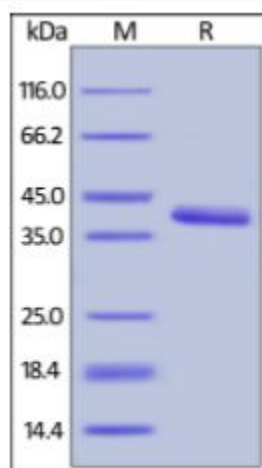
Immobilized Human IGF-I, Fc Tag at 5 µg/mL (100 µl/well), can bind Human IGFBP-3, His Tag with a linear range of 0.03-0.25 µg/mL (QC tested).

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SDS-PAGE of IGF1-384H



Human IGF-I, Fc Tag on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 98%.