IGF-I Protein, Salmon

Cat. No.:	HY-P701241
Synonyms:	IGF1; IGF-1; insulin-like growth factor 1; Insulin-like growth factor I; Somatomedin C; somatomedin-C
Species:	Others
Source:	E. coli
Accession:	Q02815 (G45-A114)
Gene ID:	100136741
Molecular Weight:	Approximately 8 kDa

PROPERTIES

AA Sequence	G P E T L C G A E L V D T L Q F V C G E R G F Y F S K P T G Y G P S S R R S H N R G I V D E C C F Q S C E L R R L E M Y C A P V K S G K A A
Biological Activity	Measure by its ability by a dose-response proliferation assay using human FDC-P1 cells. The ED50 for this effect is <15 ng/mL. Thespecific activity of this protein is > 6.7×10^4 IU/mg. (It is recommended to experimentally determine the optimal concentration for each specific application by performing a dose response assay.)
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	< 0.2 EU/μg of protein by gel clotting method
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The IGF-I protein, structurally and functionally related to insulin, exhibits significantly higher growth-promoting activity. Serving as a ligand for IGF1R, it binds to the alpha subunit of IGF1R, triggering the activation of the intrinsic tyrosine kinase activity. This activation leads to the autophosphorylation of tyrosine residues in the beta subunit, initiating a cascade of downstream signaling events that activate the PI3K-AKT/PKB and Ras-MAPK pathways. IGF-I also binds to integrins, forming a ternary complex with integrins and IGFR1, which proves essential for IGF1 signaling. This intricate molecular interaction highlights the multifaceted role of IGF-I in mediating cellular responses and growth-promoting functions.

Caution: Product has not been fully validated for medical applications. For research use only.

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