

IGF1/IGF-I Protein, Human, Recombinant V2

General Information

Synonyms:	IGF1A;somatomedin C;IGF-I;MGF;IGF-1;IGFI;IGF-I;insulin-like growth factor 1
Protein Construction:	Gly49-Ala118
Species:	Human
Expression Host:	E. coli
Accession:	P05019
Molecular Weight:	7.6 kDa (Reducing conditions)
AA Sequence:	GPETLCGAEL VDALQFVCGD RGFYFNKPTG YGSSRRAPQ TGIVDECCFR SCDLRRLEMY CAPLKPAKSA

QC Testing

Biological Activity:	Fully biologically active when compared to standard. The ED50 as determined by a cell proliferation assay using serum free human MCF-7 cells is less than 2 ng/ml, corresponding to a specific activity of $> 5.0 \times 10^5$ IU/mg.
Purity:	$> 97\%$ as determined by SDS-PAGE; $> 95\%$ as determined by HPLC
Endotoxin:	< 0.01 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 μ m filtered concentrated solution in PBS, pH 7.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water or aqueous buffer containing 0.1 % BSA. The product concentration should not be less than 100 μ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C . For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months.

Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The insulin-like growth factors (IGFs) belonged to the insulin gene family, are mitogenic polypeptide growth factors that stimulate the proliferation and survival of various cell types including muscle, bone, and cartilage tissue in vitro. The IGFs are similar by structure and function to insulin, but have a much higher growth-promoting activity than insulin. IGF-1 is produced primarily by the liver as an endocrine hormone as well as in target tissues in

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a paracrine/autocrine fashion. The production of IGF-1 is stimulated by growth hormone (GH) and can be retarded by undernutrition, growth hormone insensitivity, lack of growth hormone receptors, or failures of the downstream signaling pathway post GH receptor including SHP2 and STAT5B. Recombinant human IGF-1 are globular proteins containing 70 amino acids and 3 intra-molecular disulfide bonds. Mature human IGF-1 shares 94 % and 96 % a.a. sequence identity with mouse and rat IGF-1, respectively, and exhibits cross-species activity.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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