IGF-1, human recombinant

Information

Gene ID	3479
Accession #	P05019
Alternate Names	IGF1A; Insulin-Like Growth Factor 1; Somatomedin C; IGF-I; IGFI; IGF1; IGF-IA; Mechano growth factor; MGF
Source	E. coli
Protein sequence	GPETLCGAEL VDALQFVCGD RGFYFNKPTG YGSSSRRAPQ TGIVDECCFR SCDLRRLEMY CAPLKPAKSA
Tag	Tag free
M.Wt	Approximately 7.6 kDa, a single non-glycosylated polypeptide chain containing 70 amino acids.
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles - 36 months from date of receipt, -20 to -70°C as supplied. -1 month, 2 to 8°C under sterile conditions after reconstitution. -3 months, -20 to -70°C under sterile conditions after reconstitution.
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.0.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at ⩽ -20°C. Further dilutions should be made in appropriate buffered solutions.
Biological Activity	Fully biologically active when compared to standard. The ED_{50} 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 > 5.0×10^5 IU/mg.
Shipping Condition	Gel pack.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	＞98% by SDS-PAGE or HPLC.
Endotoxin	Less than 0.01 EU/μg as determined by LAL method.

Description

Insulin-like growth factor I (IGF-1) is a polypeptide endocrine hormone structurally similar to insulin and is mainly produced in the liver when stimulated by growth hormone. IGF-1 is a growth factor that stimulates the proliferation of various cell types including muscle, bone, and cartilage tissue. IGF-1 binds and interacts with the IGF-1 binding proteins (IGFBPs). IGF-1 binds to the IGF-1 receptor with a higher affinity than the insulin receptor.

Human IGF-I is synthesized as two precursor isoforms with N- and alternate C-terminal propeptides, which are proteolyzed to produce the identical 7.6 kDa mature IGF-I. Mature human IGF I shares 94% and 96% aa sequence identity with mouse IGF1 and rat IGF1, respectively, and exhibits cross species activity. Human IGF-1 is a 7.6 kDa protein containing 70 amino acid residues. The recombinant human IGF-1 was produced using animal origin free technology.

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