Active Recombinant Human IGF1

Cat. No. IGF1-526H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human IGF1 produced in E. coli is approximately 7.7 kDa, a single non-glycosylated polypeptide chain containing 70 amino acids. 15N isotope Labeled.
Species	Human
Source	E.coli
Description	The Insulin-like Growth factors (IGFs) are mitogenic polypeptide growth factors that stimulate the proliferation and survival of various cell types including muscle, bone, and cartilage tissue in vitro. The liver predominantly produces iGFs, although a variety of tissues produce the IGFs at distinctive times. The IGFs belong to the Insulin gene family, which also contains insulin and relaxin. The IGFs are similar by structure and function to insulin, but have a much higher growth-promoting activity than insulin. IGF-II expression is influenced by placenta lactogen, while IGF-I expression is regulated by growth hormone. Both IGF-I and IGF-II signal through the tyrosine kinase type I receptor (IGF-IR), but, IGF-II can also signal through the IGF-II/Mannose-6-phosphate receptor. Proteolytic processing of inactive precursor proteins, which contain N-terminal and C-terminal propeptide regions, generates mature IGFs. Recombinant human IGF-I and IGF-II are globular proteins containing 70 and 67 amino acids, respectively, and 3 intra-molecular disulfide bonds.
Form	Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.2.
Bio-activity	Fully biologically active when compared to standard. The ED50 determined by a cell

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	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.
Molecular Mass	7.7 kDa
AA Sequence	GPETLCGAEL VDALQFVCGD RGFYFNKPTG YGSSSRRAPQ TGIVDECCFR SCDLRRLEMY CAPLKPAKSA
Endotoxin	Less than 1 EU/μg of rHuIGF-I, 15N as determined by LAL method.
Purity	>97% by SDS-PAGE and HPLC analyses.
Usage	This material is for research, laboratory or further evaluation purposes. NOT FOR HUMAN USE.
Storage	This lyophilized preparation is stable at 2-8 centigrade, but should be kept at -20 centigrade for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 centigrade. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 centigrade to -70 centigrade. Avoid repeated freeze/thaw cycles.
Reconstitution	We recommend that this vial be briefy 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 centigrade. Further dilutions should be made in appropriate buffered solutions.

GENE INFORMATION

Gene Name	IGF1 insulin-like growth factor 1 (somatomedin C) [Homo sapiens]

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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
Chromosome Location	12q23.2
Pathway	Adipogenesis, organism-specific biosystem; Aldosterone-regulated sodium reabsorption, organism-specific biosystem; Aldosterone-regulated sodium reabsorption, conserved biosystem; Androgen Receptor Signaling Pathway, organism-specific biosystem; Apoptosis, organism-specific biosystem; Diabetes pathways, organism-specific biosystem; Dilated cardiomyopathy, organism-specific biosystem;
Function	growth factor activity; hormone activity; hormone activity; insulin receptor binding; insulin-like growth factor receptor binding; integrin binding; protein binding;

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