HUMAN INSULIN-LIKE GROWTH FACTOR-I
RECOMBINANT PROTEIN, BIOLOGICALLY ACTIVE

Catalog Number: RP-106
Size: 100 µg

Product Overview: Recombinant human Insulin Like Growth Factor-I is approximately 7.6 kDa, a single non-glycosylated polypeptide chain containing 70 amino acids.

Description: The 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 intramolecular disulfide bonds.

Purity: >95% by SDS-PAGE and HPLC analyses.

Formulation: Lyophilized from a 0.2 µm filtered concentrated (1 mg/ml) solution in PBS, pH 7.4.

Specific Activity: Fully biologically active when compared to standard. The ED50 was determined by a cell proliferation assay using FDC-P1 cells is < 2.0 ng/ml, corresponding to a specific activity of > 5 x 10^5 units/mg.

Endotoxin: Less than 1 EU/µg of rHuIGF-I as determined by LAL method.

Reconstitution: It is recommended to reconstitute the lyophilized rHuMCP-4/CCL13 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.

Storage: This lyophilized preparation is stable for several weeks at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

Gene Name: IGF1
GeneID: 3479
Chromosome Location: 12q22-q23
mRNA Refseq: NM_000618
MIM: 147440
Protein Refseq: NP_000609
UniProt ID: P01343

Pathway: Focal adhesion; Glioma; Long-term depression; Melanoma; Prostate cancer; mTOR signaling pathway; Hemostasis.

Function: Growth factor activity; Hormone activity; Hormone activity; Insulin receptor binding; Insulin-like growth factor receptor binding; Protein binding.

Synonyms: IBP1; IGF-IA; IGF1; MGF; Somatomedin-C; Mechano growth factor; insulin-like growth factor 1; insulin-like growth factor 1 (somatomedin C); somatomedin C; IGF1B_HUMAN; Insulin-like growth factor IB [Precursor]; IGF-IB.

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