

# Human CellExp™ IGF-1, human recombinant

**CATALOG #:** 7507-20 20 µg  
7507-100 100 µg

**ALTERNATE NAMES:** IGF-I, IGF1A, somatomedin C, MGF

**SOURCE:** HEK 293 cells (Gly 49 - Ala 118)

**PURITY:** ≥ 98% by SDS-PAGE gel

**MOL. WEIGHT:** This protein rhIGFI-Fc, fused with Fc fragment of human IgG1 at the N-terminus, has a calculated MW of 35 kDa. DTT-reduced Protein migrates as 35 kDa.

**ENDOTOXIN LEVEL:** < 1.0 EU per µg of the rhIGFI-Fc by the LAL method.

**FORM:** Lyophilized

**FORMULATION:** Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 100 mM glycine, pH 7.5. Normally Mannitol or Trehalose are added as protectants before lyophilization.

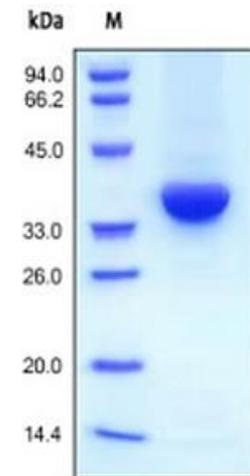
**STORAGE CONDITIONS:** Store at -20°C. After reconstitution, aliquot and store at -20°C or -70°C for up to 3 months. Avoid repeated freezing and thawing cycles. No activity loss was observed after storage in lyophilized state for 1 year (4°C) and after reconstitution under sterile conditions for 3 months (-70°C).

**RECONSTITUTION:** Centrifuge the vial prior to opening. Reconstitute in PBS, pH 7.4. Do not vortex.

**DESCRIPTION:** Insulin-like growth factor 1 (IGF-1) also known as somatomedin C, IGF1A, IGFI, sulfation factor, and is a hormone similar in molecular structure to insulin. It plays an important role in childhood growth and continues to have anabolic effects in adults. A synthetic analog of IGF-1, mecasermin is used for the treatment of growth failure. IGF-1 consists of 70 amino acids in a single chain with three intramolecular disulfide bridges. IGF-1 has a molecular weight of 7649 daltons. IGF-1 is produced primarily by the liver as an endocrine hormone as well as in target tissues in a paracrine/autocrine fashion. IGF-1 binds to at least two cell surface receptors: the Insulin-like growth factor 1 receptor, abbreviated as "IGF1R", and the insulin receptor. The IGF-1 receptor seems to be the "physiologic" receptor - it binds IGF-1 at significantly higher affinity than the IGF-1 that is bound to the insulin receptor. Like the insulin receptor, the IGF-1 receptor is a receptor tyrosine kinase - meaning

it signals by causing the addition of a phosphate molecule on particular tyrosines. Its primary action is mediated by binding to its specific receptor IGF1R, present on many cell types in many tissues. Binding to the IGF1R, a receptor tyrosine kinase, initiates intracellular signaling; IGF-1 is one of the most potent natural activators of the AKT signaling pathway, a stimulator of cell growth and proliferation, and a potent inhibitor of programmed cell death. Insulin-like growth factor 1 has been shown to bind and interact with all the IGF-1 Binding Proteins (IGFBPs), of which there are six (IGFBP1-6).

**BIOLOGICAL ACTIVITY:** Measured in a serum-free cell proliferation assay using MCF-7 human breast cancer cells. The ED<sub>50</sub> for this effect is typically 0.5-2.5 ng/mL.



**Human recombinant IGF-1 - Fc.** The purity of rhIGFI-Fc was determined by reduced SDS-PAGE and staining overnight with Coomassie Blue.

#### RELATED PRODUCTS:

- IGF-II, human recombinant (Cat # 4122-10, -50, -1000)
- IGF-II Antibody (Cat # 5122-100)
- IGF-I, human recombinant (Cat # 4119-100, -1000, -5000, -1MG, -10MG, -20MG, -50MG, 1G)
- IGF-BP1, human recombinant (Cat # 4717-10, -25, -100, -1000)
- IGF-BP3, human recombinant (Cat # 4720-25, -100, -1000)
- IGF-BP5, human recombinant (Cat # 4723-25, -100, -1000)
- IGF-I, murine recombinant (Cat # 4120-20, -50, -100, -1000)
- IGF-I, rat recombinant (Cat # 4120-20, -100, -1000)
- Long R3 IGF-I, human recombinant (Cat # 4216-100, -1MG, -5MG, -20MG, -50MG, -1G)

**FOR RESEARCH USE ONLY! Not to be used in humans.**