

Recombinant Human Insulin-Like Growth Factor I (rh IGF-1)

Synonyms: Somatomedin C, IGF-1A, Mechano growth factor, MGF.

Introduction: The somatomedins or insulin-like growth factors (IGFs) comprise a family of peptides that play important roles in mammalian growth and development. IGF-1 mediates many of the growth-promoting effects of growth hormone (GH; MIM 139250). Early studies showed that growth hormone did not directly stimulate the incorporation of sulfate into cartilage, but rather acted through a serum factor, termed 'sulfation factor' which later became known as 'somatomedin' (Daughaday et al., 1972). Three main somatomedins have been characterized: somatomedin C (IGF-1), somatomedin A (IGF-2; MIM 147470), and somatomedin B (MIM 193190) (Rotwein, 1986; Rosenfeld, 2003).

Description: Recombinant human IGF-1 produced in *E.Coli* is a single, non-glycosylated, polypeptide chain containing 70 amino acids and having a molecular mass of 7.6 kDa. IGF-1 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: The protein was lyophilized from a 0.2µm filtered concentrated solution in PBS, pH 7.4.

Solubility: It is recommended to reconstitute the lyophilized rh IGF-1 in sterile H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rh IGF-1 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rh IGF-1 should be stored at 4° C between 2-7 days and for future use below -18° C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Amino Acid Sequence: GPETLCGAEL VDALQFVCGD RGFYFNKPTG YGSSSRRAPQ TGIVDECCFR SCDLRRLEMY CAPLKPAKSA.

Biological Activity: The ED₅₀ as determined by a cell proliferation assay using murine NIH-3T3 cells is less than 1.0 ng/ml, corresponding to a specific activity of > 1×10⁶ units/mg.

Endotoxicity: The endotoxin level is less than 1 EU / µg determined by LAL method.

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<i>small</i>	20 µg	Cat.N°	11343314
<i>medium</i>	100 µg	Cat.N°	11343316
<i>large</i>	500 µg	Cat.N°	11343317

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