

Recombinant Human IGF-1, 15N

Information

Gene ID	3479
Accession #	P05019
Alternate Names	Somatomedin C, IGF-I, IGF-IA, Mechano growth factor, MGF
Source	<i>Escherichia coli</i> .
M.Wt	Approximately 7743 Da, a single non-glycosylated polypeptide chain containing 70 amino acids. 15N stable isotope labeled.
AA Sequence	GPETLCGAEL VDALQFVCGD RGFYFNKPTG YGSSRRAPQ TGIVDECCFR SCDLRRLEMY CAPLKPAKSA
Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. - 12 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 7.2.
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.

Components and Storage

Components	10 µg	100 µg	500 µg
Recombinant Human IGF-1, 15N	10 µg	100 µg	500 µg

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Quality Control

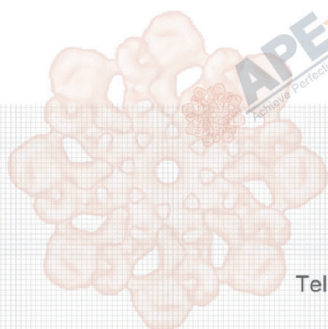
Purity	> 97 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/ μ g of rHuIGF-1, 15N as determined by LAL method.

Description

The insulin-like growth factors (IGFs) belonged to the insulin gene family, are mitogenic polypeptide growth factors that stimulate the proliferation and survival of various cell types including muscle, bone, and cartilage tissue in vitro. The IGFs are similar by structure and function to insulin, but have a much higher growth-promoting activity than insulin. IGF-1 is produced primarily by the liver as an endocrine hormone as well as in target tissues in a paracrine/autocrine fashion. The production of IGF-1 is stimulated by growth hormone (GH) and can be retarded by undernutrition, growth hormone insensitivity, lack of growth hormone receptors, or failures of the downstream signaling pathway post GH receptor including SHP2 and STAT5B. Recombinant human IGF-1 are globular proteins containing 70 amino acids and 3 intra-molecular disulfide bonds. Mature human IGF-1 shares 94 % and 96 % a.a. sequence identity with mouse and rat IGF-1, respectively, and exhibits cross-species activity.

Reference

1. Skottner A, Fryklund L, Hansson HA. 1986. Acta Paediatr Scand Suppl, 325: 107-11.
2. Bartlett WP, Li XS, Williams M. 1992. Brain Res Mol Brain Res, 12: 285-91.
3. Palmade F, Sechoy-Chambon O, Coquelet C, et al. 1994. Curr Eye Res, 13: 531-7.
4. Tennagels N, Hube-Magg C, Wirth A, et al. 1999. Biochem Biophys Res Commun, 260: 724-8.
5. Laron Z. 2004. Novartis Found Symp, 262: 56-77; discussion -83, 265-8.
6. Shiratsuchi I, Akagi Y, Kawahara A, et al. 2011. Anticancer Res, 31: 2541-5.



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