

Recombinant Rat Igf1 protein

Cat. No. Igf1-590R **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Rat Igf1 protein was expressed in Escherichia coli.
Species	Rat
Source	E.coli
ProteinLength	70
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 rat IGF-1 shares 96 % a.a. sequence identity with human IGF-1 and exhibits cross-species activity.
Form	Lyophilized from a 0.2µm filtered concentrated solution in PBS, pH 7.4.
Bio-activity	Fully biologically active when compared to standard. The ED50 as determined by a cell proliferation assay using serum free human MCF-7 cells is less than 2 ng/ml,

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	corresponding to a specific activity of $> 5.0 \times 10^5$ IU/mg.
Molecular Mass	Approximately 7.7 kDa, a single non-glycosylated polypeptide chain containing 70 amino acid residues.
AA Sequence	GPETLCGAELVDALQFVCGPRGFYFNKPTGYGSSIRRAPQTGIVDECCFRSCDLRR LEMYCAPLKPTKSA
Endotoxin	Less than 1 EU/ μ g of rRtIGF-1 as determined by LAL method.
Purity	>97% by SDS-PAGE and HPLC analysis.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
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 centigrade. Further dilutions should be made in appropriate buffered solutions.

GENE INFORMATION

Gene Name	Igf1
Official Symbol	Igf1
Synonyms	Somatomedin C, IGF-I, IGF-IA, Mechano growth factor, MGF

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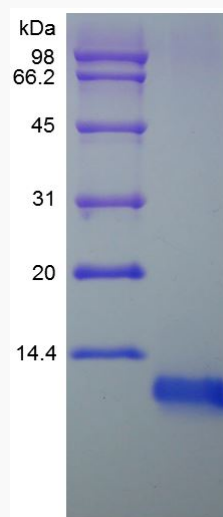
Gene ID 24482

mRNA Refseq NM_001082477

Protein Refseq NP_001075946

UniProt ID P08025

SDS-PAGE of Igf1-
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