

Recombinant Human Insulin-like Growth Factor-1, 15N Stable Isotope Labeled

#R00125

Size: 10 µg/100 µg/500 µg

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.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

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.

AA Sequence

GPETLCGAELVDALQFVCGDRGFYFNKPTGYGSSSR
RAPQTGIVDECCFRSCDLRRLEMYCAPLKPAKSA

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.

Product Specification

Synonyms	Somatomedin C, IGF-I, IGF-IA, Mechano growth factor, MGF
Accession	P05019
GeneID	3479
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 7743 Da, a single non-glycosylated polypeptide chain containing 70 amino acids. 15N stable isotope labeled.
Purity	> 97 % by SDS-PAGE and HPLC analyses.
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 $> 5.0 \times 10^5$

IU/mg.

Physical Sterile Filtered White lyophilized

Appearance (freeze-dried) powder.

Formulation Lyophilized from a 0.2 μm
filtered concentrated solution in
PBS, pH 7.2, 0.02% Tween-20.

Endotoxin Less than 1 EU/ μg of rHuIGF-1,
15N as determined by LAL
method.
