

Product Information

IGF-I Human

Animal Component-Free, recombinant expressed in E. coli, suitable for cell culture

SRP3069

Storage Temperature: -20 °C

Synonym: Insulin-like Growth Factor-I, Somatomedin-C

Product Description

Insulin-like growth factors I and II are closely related polypeptides from a common ancestor.^{1, 2} IGF-I is a single chain polypeptide of 70 amino acid residues cross-linked by three disulfide bridges.¹ Its molecular weight is ~7.6 kDa. IGF-I, which is identical to somatomedin C,³ is under the control of pituitary growth hormone.⁴ IGF-I is mitogenic for a variety of cells including fibroblasts, osteoblasts, smooth muscle cells, fetal brain cells, neuroglial cells, and erythroid progenitor cells.⁴ To control cell proliferation and differentiation, IGF-I regulates specific events in the G1 phase of the animal cell cycle.⁴ IGF-I stimulates myoblast differentiation and myotubal formation.⁴ IGF-I has insulin-like effects, such as stimulation of glucose consumption in adipose tissue, and displays homology to proinsulin.¹

This product is lyophilized from 0.2 µm-filtered aqueous solution with no additives.

The biological activity of recombinant human Insulin-Like Growth Factor I is measured by a dose-dependent cell proliferation assay. The ED50 is defined as the effective concentration of growth factor that elicits a 50% increase of cell growth in a cell-based bioassay.

ED50: ≤10.0 ng/mL using mouse Balb/3T3 cells.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

It is recommended to centrifuge the vial prior to reconstitution. A stock solution may be prepared by reconstituting in sterile 0.2% acetic acid (recommended) to a concentration of 1.0 mg/mL. The stock solution may be diluted further using aqueous buffers.

Storage/Stability

Store the product at -20 °C. After reconstitution, the product can be stored at 2-8 °C for up to 1 month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

References

1. Rinderknecht, E., et al., J. Biol. Chem., 253, 2769-76 (1978).
2. Rinderknecht, E., et al., FEBS Lett., 89, 283-6 (1978).
3. Klapper, D. G., et al., Endocrinology, 112, 2215-7 (1983).
4. Zumstein, P., and Stiles, C. D., J. Biol. Chem., 262, 11252-60 (1987).

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