

Product Information

INSULIN-LIKE GROWTH FACTOR I (IGF-I)

Mouse, Recombinant
Expressed in *E. coli*

Product Number **I 8779**

Product Description

Recombinant Mouse Insulin-like Growth Factor I (IGF-I) is produced from a DNA sequence encoding the mature IGF-I protein.¹ Mouse IGF-I, a 70 amino acid protein cross-linked by three disulfide bridges, has a predicted molecular mass of approximately 7.6 kDa. Mouse and human IGF-I share 97% sequence identity.

Insulin-like growth factor I (also known as somatomedin C and somatomedin A) and insulin-like growth factor II (IGF-II) belong to the family of insulin-like growth factors which are structurally homologous to proinsulin. Mature IGF-I and IGF-II are highly conserved and share approximately 70% amino acid sequence identity. They have autocrine, paracrine, and endocrine functions.

IGF-I mediates the growth-promoting activities of growth hormone postnatally. It also plays a role in embryonic growth and differentiation. IGF-I controls cell proliferation and differentiation by regulating specific events in G1 phase of cell cycle. It also stimulates myoblast differentiation and myotubal formation² and has insulin-like effects, such as stimulation of glucose consumption in adipose tissue. IGF-I exerts its actions through the IGF-I receptor.

IGF-I and IGF II are expressed in many tissues and cell types. IGF-I is mitogenic for a variety of cells including fibroblasts, osteoblasts, smooth muscle cells, fetal brain cells, neuroglial cells, and erythroid progenitor cells.²

Reagent

Recombinant Mouse Insulin-like Growth Factor I is supplied as approximately 50 µg of protein lyophilized from a 0.2 µm filtered solution in phosphate buffered saline (PBS).

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 25 µg/ml.

Storage/Stability

Store at -20 °C. Upon reconstitution, store at 2 °C to 8 °C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

Recombinant Mouse Insulin-like Growth Factor I (IGF-I) is measured in a serum-free cell proliferation assay using the human breast carcinoma cell line MCF-7 cells.³

The ED₅₀ for this effect is typically 1.0 to 3.0 ng/ml.

The ED₅₀ is defined as the effective concentration of growth factor that elicits a 50 % increase in cell growth in a cell based bioassay.

Purity: > 97 % as determined by SDS-PAGE, visualized by silver stain.

Endotoxin level is < 0.1 ng/µg protein as determined by the LAL (Limulus amoebocyte lysate) method.

References

1. Bell, G., et al., *Nucleic Acids Res.*, **14**, 7873 (1986).
2. Zumstein, P., et al., *J. Biol. Chem.*, **262**, 11252 (1987).
3. Karey, K.P., et al., *Cancer Research*, **48**, 4083 (1988).

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