Recombinant Mouse IGF-I/IGF-1

Catalog Number: 791-MG

DESCRIPTION

Source	*E. coli*-derived mouse IGF-I/IGF-1 protein Gly33-Ala102 Accession # Q8CAR0
N-terminal Sequence Analysis	Gly33
Predicted Molecular Mass	7.6 kDa

SPECIFICATIONS

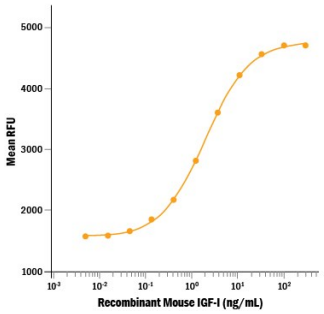
Activity	Measured in a serum-free cell proliferation assay using MCF-7 human breast cancer cells. Karey, K.P. *et al.* (1988) Cancer Research **48**:4083. The ED_{50} for this effect is 0.4-2 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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.

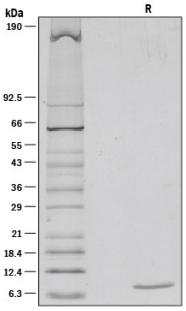
DATA

Bioactivity



Recombinant Mouse IGF-I/IGF-1 (Catalog # 791-MG) stimulates cell proliferation in a serum-free assay using the MCF-7 human breast cancer cell line. The ED_{50} for this effect is 0.4-2 ng/mL.

SDS-PAGE



1 µg/lane of Recombinant Mouse IGF-I/IGF-1 was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 8 kDa.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
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BACKGROUND

Insulin-like growth factor I, also known as somatomedin C, is the dominant effector of growth hormone and is structurally homologous to proinsulin. Mouse IGF-I/IGF-1 is synthesized as two precursor isoforms with alternate N- and C-terminal propeptides (1). These isoforms are differentially expressed by various tissues (1). The 7.6 kDa mature IGF-I/IGF-1 is identical between isoforms and is generated by proteolytic removal of the N- and C-terminal regions. Mature mouse IGF-I/IGF-1 shares 94% and 99% aa sequence identity with human and rat IGF-I/IGF-1, respectively (2), and exhibits cross-species activity. It shares 60% aa sequence identity with mature mouse IGF-II/IGF-2. Circulating IGF-I/IGF-1 is produced by hepatocytes, while local IGF-I/IGF-1 is produced by many other tissues in which it has paracrine effects (1). IGF-I/IGF-1 induces the proliferation, migration, and differentiation of a wide variety of cell types during development and postnatally (3). IGF-I/IGF-1 regulates glucose and fatty acid metabolism, steroid hormone activity, and cartilage and bone metabolism (4-7). It plays an important role in muscle regeneration and tumor progression (1, 8). IGF-I/IGF-1 binds IGF-I R, IGF-II R, and the insulin receptor, although its effects are mediated primarily by IGF-I R (9). IGF-I/IGF-1 association with IGF binding proteins increases its plasma half-life and modulates its interactions with receptors (10).

References:

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