Mouse IGF-I Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF791

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse IGF-I in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant rat IGF-I is observed, 15% cross-reactivity with recombinant human IGF-I is observed, and less than 2% cross-reactivity with recombinant mouse IGF-II is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant mouse IGF-I Gl33-Ala102 Accession # Q8CAR0
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

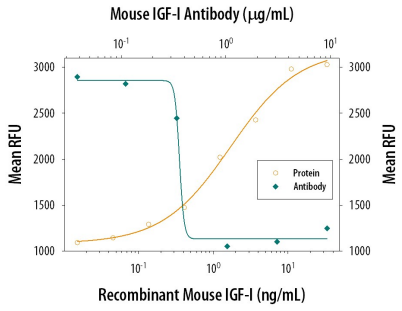
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse IGF-I (Catalog # 791-MG)
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize IGF–I-induced proliferation in the MCF–7 human breast cancer cell line. Karey, K. P. *et al*. (1988) Cancer Research **48**:4083. The Neutralization Dose (ND_{50}) is typically 0.2-1.0 µg/mL in the presence of 15 ng/mL Recombinant Mouse IGF–I.	

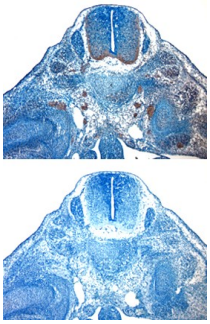
DATA

Neutralization



Cell Proliferation Induced by IGF-I and Neutralization by Mouse IGF-I Antibody. Recombinant Mouse IGF-I (Catalog # 791-MG) stimulates proliferation in the MCF-7 human breast cancer cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse IGF-I (15 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse IGF-I Antigen Affinity-purified Polyclonal Antibody (Catalog # AF791). The ND_{50} is typically 0.2-1.0 µg/mL.

Immunohistochemistry



IGF-I in Mouse Embryo. IGF-I was detected in immersion fixed frozen sections of mouse embryo (13 d.p.c.) using Goat Anti-Mouse IGF-I Antigen Affinity-purified Polyclonal Antibody (Catalog # AF791) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling when primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. Specific staining was localized to developing brain and muscle cells. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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 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 is identical between isoforms and is generated by proteolytic removal of the N- and C-terminal regions. Mature mouse IGF-I shares 94% and 99% aa sequence identity with human and rat IGF-I, respectively (2), and exhibits cross-species activity. It shares 60% aa sequence identity with mature mouse IGF-II. Circulating IGF-I is produced by hepatocytes, while local IGF-I is produced by many other tissues in which it has paracrine effects (1). IGF-I induces the proliferation, migration, and differentiation of a wide variety of cell types during development and postnatally (3). IGF-I 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 binds IGF-I R, IGF-II R, and the insulin receptor, although its effects are mediated primarily by IGF-I R (9). IGF-I association with IGF binding proteins increases its plasma half-life and modulates its interactions with receptors (10).

References:

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