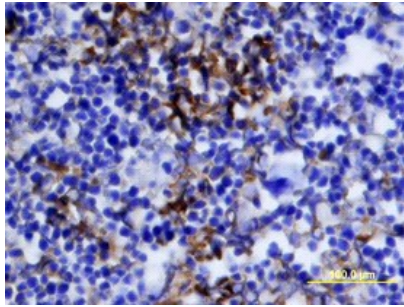
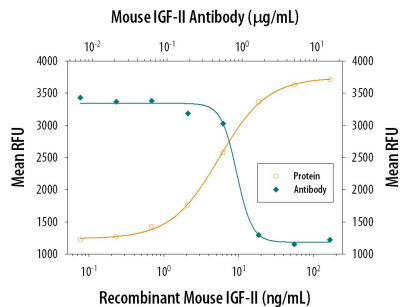


DESCRIPTION	
Species Reactivity	Mouse
Specificity	Detects mouse IGF-II in direct ELISAs and Western blots. In direct ELISAs, approximately 50% cross-reactivity with recombinant human IGF-II is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse IGF-II Ala25-Glu91 Accession # P09535
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. <i>General Protocols</i> are available in the <i>Technical Information</i> section on our website.		
	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse IGF-II (Catalog # 792-MG)
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize IGF-II-induced proliferation in the MCF-7 human breast cancer cell line. Karey, K.P. <i>et al.</i> (1988) <i>Cancer Research</i> 48:4083. The Neutralization Dose (ND ₅₀) is typically 0.5-2.5 µg/mL in the presence of 30 ng/mL Recombinant Mouse IGF-II.	

DATA	
<p>Immunohistochemistry</p>  <p>IGF-II in Mouse Embryo. IGF-II was detected in immersion fixed frozen sections of mouse embryo (E13-17) using Mouse IGF-II Antigen Affinity-purified Polyclonal Antibody (Catalog # AF792) 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). View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.</p>	<p>Neutralization</p>  <p>Cell Proliferation Induced by IGF-II and Neutralization by Mouse IGF-II Antibody. Recombinant Mouse IGF-II (Catalog # 792-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-II (30 ng/mL) is neutralized (green line) by increasing concentrations of Mouse IGF-II Antigen Affinity-purified Polyclonal Antibody (Catalog # AF792). The ND₅₀ is typically 0.5-2.5 µg/mL.</p>

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. <ul style="list-style-type: none"> ● 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.

BACKGROUND

IGF-II (Insulin-like growth factor II; also multiplication-stimulating polypeptide/MSP and somatomedin-A) is a secreted 8 kDa polypeptide that belongs to the insulin family of peptide growth factors (1-3). It is part of a complex system of growth and metabolic-regulating proteins that is particularly important during development. It has been associated with nervous system proliferation and differentiation, myelination, adrenal cortical proliferation, and skeletal growth and differentiation (4). In humans, IGF-II is primarily synthesized by the liver and circulates at high levels in both fetus and adult. In rodents, however, IGF-II levels drop after the perinatal period, an effect attributed to the lack of a key gene promoter (2, 5). This may indicate that postnatally, IGF-II has either a limited or local effect only in rodents. For example, evidence suggests IGF-II may be the intermediary for SHH induction of VEGF attendant with local neovascularization (6). Rodent cells known to express IGF-II include astrocytes (7), hepatocytes (8), osteoblasts (9), embryonic striated muscle cells (10, 11), plus Kupffer cells and Ito cells (12). Mouse IGF-II is synthesized as a 180 amino acid (aa) preproprecursor (13). It contains a 24 aa signal sequence, a 67 aa mature region, and an 89 aa C-terminal prodomain that is alternatively referred to as the E-peptide. Mature IGF-II is 91% and 97% aa identical to human and rat IGF-II, respectively. Proper processing of IGF-II requires the chaperone activity of GRP94 (14). This generates an 8 kDa mature form, an 18 kDa, 156 aa proform, and a potential 11 kDa, 88 aa "Big" form (aa 25-112). This 11 kDa "Big" form would be equivalent to human 15-16 kDa IGF-II, with the 5 kDa difference attributable to the presence of O-linked glycosylation (15). There is an additional 34 aa proteolytic fragment that is termed preptin and contains aa 93-126 of the preproprecursor. This is distinct from IGF-II, is secreted by pancreatic B cells, and facilitates insulin secretion (16, 17). IGF-II has multiple binding partners. It binds to IGF-I R, the Insulin receptor (IR)-type A and IGF-IR:IR-A hybrids, the type II IGF receptor (IGF-II R), and IGF binding proteins 1-6 (18, 19). The first three receptors initiate downstream signaling events, the IGF-II R sequesters local IGF-II, and the six IGF-BPs regulate IGF-II activity in various tissues.

References:

1. LeRoith, D. and C.T. Roberts Jr. (2003) *Cancer Lett.* **195**:127.
2. Werner, H. and D. LeRoith (2000) *Cell. Mol. Life Sci.* **57**:932.
3. Pavelic, J. *et al.* (2007) *Indian J. Med. Res.* **125**:511.
4. Varela-Nieto, I. *et al.* (2007) *Curr. Pharm. Des.* **13**:687.
5. Rotwein, P. and L.J. Hall (1990) *DNA Cell Biol.* **10**:725.
6. Chao, W. and P.A. D-Amore (2008) *Cytokine Growth Factor Rev.* **19**:111.
7. Rotwein, P. *et al.* (1988) *Proc. Natl. Acad. Sci. USA* **85**:265.
8. Goya, L. *et al.* (1999) *J. Biol. Chem.* **274**:24633.
9. McCarthy, T.L. *et al.* (1992) *Endocrinology* **130**:1303.
10. Zindy, F. *et al.* (1992) *J. Hepatol.* **14**:30.
11. Holthuizen, P.E. *et al.* (1993) *Regul. Pept.* **48**:77.
12. Merrick, D. *et al.* (2007) *BMC Dev. Biol.* **7**:65.
13. Stempien, M.M. *et al.* (1986) *DNA* **5**:357.
14. Ostrovsky, O. *et al.* (2009) *Mol. Biol. Cell* **20**:1855.
15. Daughaday, W.H. *et al.* (1993) *Proc. Natl. Acad. Sci. USA* **90**:5823.
16. Buchanan, C.M. *et al.* (2001) *Biochem. J.* **360**:431.
17. Cornish, J. *et al.* (2007) *Am. J. Physiol. Endocrinol. Metab.* **292**:E117.
18. Denley, A. *et al.* (2005) *Cytokine Growth Factor Rev.* **16**:421.
19. Belfiore, A. (2007) *Curr. Pharm. Des.* **13**:671.