

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Mouse                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects mouse IGF-II/IGF2 in ELISAs and Western blots. In ELISAs, this antibody shows less than 6% cross-reactivity with recombinant human (rh) IGF-I R and no cross-reactivity with rhIGF-I and rmlGF-I is observed. In Western blots, 100% cross-re                       |
| <b>Source</b>             | Monoclonal Rat IgG <sub>2A</sub> Clone # 122404                                                                                                                                                                                                                             |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant mouse IGF-II/IGF2<br>Ala25-Glu91<br>Accession # P09535                                                                                                                                                                                  |
| <b>Conjugate</b>          | Alexa Fluor 594<br>Excitation Wavelength: 590 nm<br>Emission Wavelength: 617 nm                                                                                                                                                                                             |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## 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.

|                                                |                                                                        |
|------------------------------------------------|------------------------------------------------------------------------|
| <b>ELISA Capture (Matched Antibody Pair)</b>   | Optimal dilution of this antibody should be experimentally determined. |
| <b>ELISA Detection (Matched Antibody Pair)</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>                            | Optimal dilution of this antibody should be experimentally determined. |

## PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

## 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, 2, 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 human, IGF-II is primarily synthesized by the liver, and circulates at high levels in both fetus and adult. In rodent, 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 rodent. 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-IR, the Insulin receptor (IR)-type A and IGF-IR:IR-A hybrids, the type 2 IGF receptor (IGF-2R), and IGF binding proteins 1-6 (18, 19). The first three receptors initiate downstream signaling events, the IGF-2R sequesters local IGF-II, and the six IGFBPs regulate IGF-II activity in various tissues.

## PRODUCT SPECIFIC NOTICES

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