

#### DESCRIPTION

|                                                                                                                                                                                                         |                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                                         |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human IGF-II R/IGF2R in direct ELISAs and Western blots.                                              |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Goat IgG                                                                                           |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                                     |
| <b>Immunogen</b>                                                                                                                                                                                        | Mouse myeloma cell line NS0-derived recombinant human IGF-II R/IGF2R<br>Ser1510-Phe2108<br>Accession # P11717 |
| <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                                                  |
| *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>CyTOF-ready</b>                             | Optimal dilution of this antibody should be experimentally determined. |
| <b>Western Blot</b>                            | Optimal dilution of this antibody should be experimentally determined. |
| <b>Blockade of Receptor-ligand Interaction</b> | Optimal dilution of this antibody should be experimentally determined. |
| <b>Flow Cytometry</b>                          | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunocytochemistry</b>                     | Optimal dilution of this antibody should be experimentally determined. |
| <b>Immunohistochemistry</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

The type 2 insulin-like growth factor receptor (also known as cation-independent mannose-6 phosphate receptor/CI-MPR) is a 300 kDa member of the P-type lectin family of molecules. P-type lectins generate functional eukaryotic lysosomes by binding and sorting lysosomal enzymes expressing phosphorylated mannose residues (M6P) (1-3). IGF-II R is a type I transmembrane glycoprotein that contains a 2,264 amino acid (aa) extracellular region, a 23 aa transmembrane segment and a 124 aa cytoplasmic tail (4, 5). The extracellular region consists of 15 contiguous "binding" repeats of about 150 aa each. The odd-numbered repeats interact with "ligands" while the even-numbered repeats likely generate a non-disulfide homodimer in the membrane (1). Repeat #11 binds IGF-II, while repeats 3 and 9 bind mannose-6 phosphate; repeat #13 contains a fibronectin type II motif and assists in IGF-II binding (1, 2). In the extracellular region of IGF-II R expressed by R&D Systems (600 aa's), human IGF-II R is 85% aa identical to both mouse and bovine IGF-II R. This expressed region includes binding repeats #11, 12, and 13. In addition to IGF-II, CI-MPR/IGF-II R binds non-M6P containing ligands such as retinoic acid, urokinase-type plasminogen-activator receptor and plasminogen, plus M6P-containing molecules such as lysosomal enzymes, TGF-β1 precursor, proliferin, LIF, CD26, herpes simplex glycoprotein D, and granzymes A and B (2, 6). IGF-II R regulates many diverse biological functions that range from intracellular trafficking to the internalization of extracellular factors and modulation of cellular responses. It delivers newly synthesized M6P-tagged lysosomal enzymes from the trans-golgi network to endosomes, and facilitates the clearance of extracellular lysosomal and matrix degrading enzymes by internalization into clathrin-coated vesicles and delivery into endosomes. With respect to IGF-II biology, it would appear that IGF-II R is principally a regulator of local IGF-II levels, targeting IGF-II for destruction in lysosomes (2). However, some evidence suggests the receptor will signal via G-proteins, an effect that has yet to be conclusively shown (6).

#### PRODUCT SPECIFIC NOTICES

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