

## 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 Ser1510-Phe2108 Accession # P11717
<b>Endotoxin Level</b>	<0.10 EU per 1 µg of the antibody by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

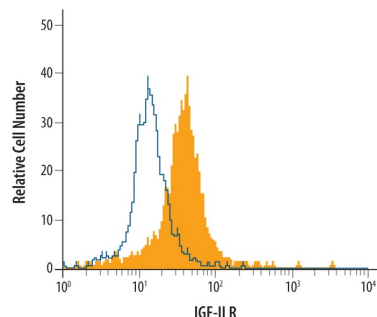
## APPLICATIONS

**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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human IGF-II R/IGF2R (Catalog # <a href="#">2447-GR</a> )
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<b>Immunocytochemistry</b>	5-15 µg/mL	See Below
<b>Immunohistochemistry</b>	5-15 µg/mL	See Below
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
<b>Blockade of Receptor-ligand Interaction</b>	In a functional ELISA, 0.5-2.5 µg/mL of this antibody will block 50% of the binding of 50 ng/mL of Recombinant Human IGF-II/IGF2 (Catalog # <a href="#">292-G2</a> ) to immobilized Recombinant Human IGF-II R/IGF2R (Catalog # <a href="#">2447-GR</a> ) coated at 2 µg/mL (100 µL/well). At 20 µg/mL, this antibody will block >90% of the binding.	

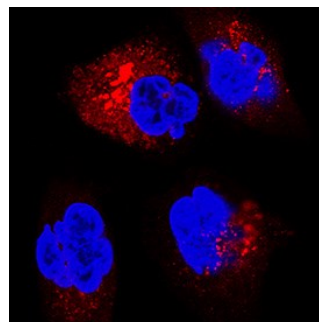
## DATA

### Flow Cytometry



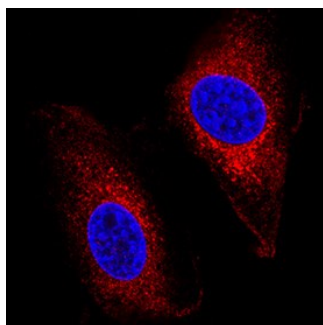
**Detection of IGF-II R/IGF2R in Human Monocytes by Flow Cytometry.** Human whole blood monocytes were stained with Goat Anti-Human IGF-II R/IGF2R Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2447, filled histogram) or control antibody (Catalog # Catalog # [AB-108-C](#), open histogram), followed by Phycoerythrin-conjugated Anti-Goat IgG Secondary Antibody (Catalog # [F0107](#)).

### Immunocytochemistry



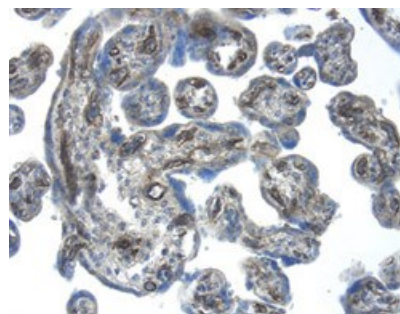
**IGF-II R/IGF2R in A172 Human Cell Line.** IGF-II R/IGF2R was detected in immersion fixed A172 human glioblastoma cell line using Goat Anti-Human IGF-II R/IGF2R Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2447) at 5 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # [NL001](#)) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

### Immunocytochemistry



**IGF-II R/IGF2R in A549 Human Cell Line.** IGF-II R/IGF2R was detected in immersion fixed A549 human lung carcinoma cell line using Goat Anti-Human IGF-II R/IGF2R Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2447) at 5 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Goat IgG Secondary Antibody (red; Catalog # [NL001](#)) and counterstained with DAPI (blue). Specific staining was localized to cell surface and cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

### Immunohistochemistry



**IGF-II R/IGF2R in Human Placenta.** IGF-II R/IGF2R was detected in immersion fixed paraffin-embedded sections of human placenta using 10 µg/mL Goat Anti-Human IGF-II R/IGF2R Antigen Affinity-purified Polyclonal Antibody (Catalog # AF2447) overnight at 4 °C. Tissue was stained with 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 Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## 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 nondisulfide 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- $\beta$ 1 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).

### References:

1. Ghosh, P. *et al.* (2003) *Nat. Rev. Mol. Cell. Biol.* **4**:202.
2. Dahms, N.M. and M.K. Hancock (2002) *Biochim. Biophys. Acta.* **1572**:317.
3. Zaina, S. and J. Nilsson (2003) *Curr. Opin. Lipidol.* **14**:483.
4. Morgan, D.O. *et al.* (1987) *Nature* **329**:301.
5. Oshima, A. *et al.* (1988) *J. Biol. Chem.* **263**:2553.
6. Hawkes, C. and S. Kar (2004) *Brain Res. Rev.* **44**:117.