

## DESCRIPTION

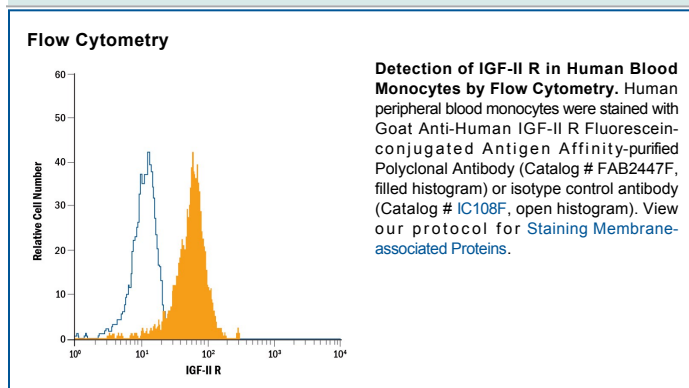
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human IGF-II R in direct ELISAs and Western blots.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human IGF-II R Ser1510-Phe2108 Accession # P11717
<b>Conjugate</b>	Fluorescein Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
<b>Formulation</b>	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *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>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## 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>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

## BACKGROUND

The type 2 Insulin-like Growth Factor Receptor (IGF-II R; 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 amino acids), human IGF-II R is 85% 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.