Human IGF-II R Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2447

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IGF-II R in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IGF-II R Ser1510-Phe2108 Accession # P11717
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.

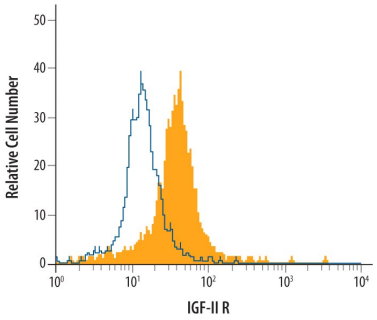
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

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

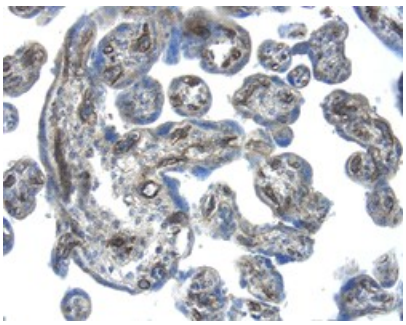
DATA

Flow Cytometry



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

Immunohistochemistry



IGF-II R in Human Placenta. IGF-II R was detected in immersion fixed paraffin-embedded sections of human placenta using 10 µg/mL Goat Anti-Human IGF-II R 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

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.** ● 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.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 Europe | Middle East | Africa TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956

Human IGF-II R Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF2447

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-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).

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.

bio-techne
bio-techne.com
Global info@bio-techne.com techsupport@bio-techne.com
North America TEL 800 343 7475 **Europe | Middle East | Africa** TEL +44 (0)1235 529449
China info.cn@bio-techne.com TEL +86 (21) 52380373
Rest of World bio-techne.com/find-us/distributors TEL +1 612 379 2956