

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human Leptin R in direct ELISAs and Western blots. In Western blots, cross reactivity with recombinant mouse Leptin R is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 52263
<b>Purification</b>	Protein A or G purified from ascites
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human Leptin R Phe22-Asp839 (predicted) Accession # P48357
<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 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>	1 µg/mL	See Below
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<b>Immunohistochemistry</b>	8-25 µg/mL	Immersion fixed paraffin-embedded sections of human brain (cortex and hippocampus)
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

**DATA**

**Western Blot**

**Detection of Recombinant Human Leptin R by Western Blot.** Western blot shows 25 ng of Recombinant Human Leptin R Fc Chimera (Catalog # 389-LR) and Recombinant Mouse Leptin R Fc Chimera (Catalog # 497-LR). PVDF Membrane was probed with 1 µg/mL of Mouse Anti-Human Leptin R Monoclonal Antibody (Catalog # MAB867) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Leptin R at approximately 155-200 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 3.

**Flow Cytometry**

**Detection of Leptin R in Human Monocytes by Flow Cytometry.** Human whole blood monocytes were stained with Human Leptin R Monoclonal Antibody (Catalog # MAB867, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG F(ab')<sub>2</sub> Secondary Antibody (Catalog # F0102B).

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 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**

Leptin receptor (OB-R), also named B219, is a type I cytokine receptor family protein with significant amino acid sequence identity with gp130, G-CSF receptor, and the LIF receptor. Multiple isoforms of human and mouse OB-R, including a long form (OB-R<sub>L</sub>) with a large cytoplasmic domain capable of signal-transduction, and several receptor isoforms with short cytoplasmic domains (OB-R<sub>S</sub>) lacking signal-transducing capabilities, have been identified. The extracellular domains of the short and long forms of OB-R are identical. An OB-R transcript, lacking a transmembrane domain and potentially encoding a soluble form of the receptor, has also been described. OB-R<sub>L</sub> transcripts were reported to be expressed predominantly in regions of the hypothalamus previously thought to be important in body weight regulation. Expression of OB-R<sub>S</sub> transcripts have been found in multiple tissues, including the choroid plexus, lung, kidney, and primitive hematopoietic cell populations. OB-R has been shown to be encoded by the mouse diabetes (*db*) and rat fatty (*fa*) genes. Rodents homozygous for the *db* or *fa* mutations have been known to exhibit an obesity phenotype. Human OB-R long form encodes a 1165 amino acid (aa) precursor protein with a 22 aa signal peptide, an 819 aa extracellular domain, a 21 aa transmembrane domain and a 303 aa cytoplasmic domain. The extracellular domain of OB-R contain two hemopoietin receptor domains, a fibronectin type III domain and the WSXWS domain. Recombinant soluble OB-R has been shown to bind Leptin with high affinity and is a potent Leptin antagonist.

**References:**

1. Tartaglia, L.A. *et al.* (1995) Cell **83**:1263.
2. Cioffi, J.A. *et al.* (1996) Nature Medicine **2**:585.
3. Tartaglia, L.A. (1997) J. Biol. Chem. **272**:6093.