Human Leptin R Antibody

Monoclonal Mouse IgG_{2B} Clone # 52263

Catalog Number: MAB867

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Leptin R in direct ELISAs and Western blots. In Western blots, cross reactivity with recombinant mouse Leptin R is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 52263
Purification	Protein A or G purified from ascites
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Leptin R Phe22-Asp839 (predicted) Accession # P48357
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 either lyophilized or as a 0.2 μm filtered solution in PBS.

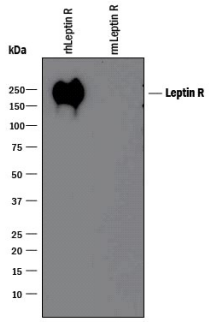
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Flow Cytometry	2.5 µg/10^6 cells	See Below
Immunohistochemistry	8-25 µg/mL	Immersion fixed paraffin-embedded sections of human brain (cortex and hippocampus)
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

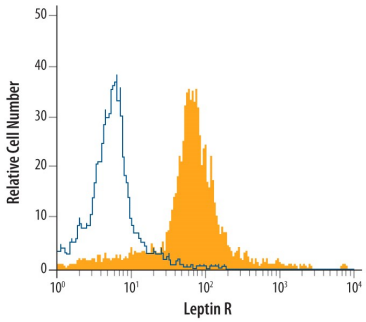
DATA

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 $F(ab')_2$ Secondary Antibody (Catalog # F0102B).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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.

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 ($OB\text{-}R_L$) with a large cytoplasmic domain capable of signal-transduction, and several receptor isoforms with short cytoplasmic domains ($OB\text{-}R_s$) 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. $OB\text{-}R_L$ transcripts were reported to be expressed predominantly in regions of the hypothalamus previously thought to be important in body weight regulation. Expression of $OB\text{-}R_s$ 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.

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