Mouse Leptin R Antibody

Monoclonal Rat IgG_{2A} Clone # 55305

Catalog Number: MAB497

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Leptin R in ELISAs.
Source	Monoclonal Rat IgG_{2A} Clone # 55305
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Leptin R Leu21-Leu840 (predicted) Accession # P48356
Formulation	Lyophilized from a 0.2 μm filtered solution in TBS 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.

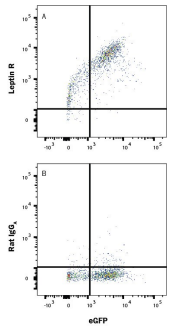
APPLICATIONS

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
Flow Cytometry	0.25 µg/10^6 cells	HEK293 human cell line transfected with mouse Leptin R and EGFP
Mouse Leptin R Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Mouse Leptin R Antibody (Catalog # MAB497)
ELISA Detection	0.1-0.4 µg/mL	Mouse Leptin R Biotinylated Antibody (Catalog # BAF497)
Standard		Recombinant Mouse Leptin R Fc Chimera (Catalog # 497-LR)

DATA

Flow Cytometry



Detection of Leptin R in HEK293 Human Cell Line transfected with Mouse Leptin R and EGFP by Flow Cytometry. HEK293 human cell line transfected with Mouse Leptin R and EGFP was stained with (A) Rat Anti-Mouse Leptin R Biotinylated Monoclonal Antibody (Catalog # MAB497) or (B) isotype control antibody (Catalog # MAB006), followed by Allophycocyanin-conjugated anti-Rat IgG Secondary Antibody (Catalog # F0113). Staining was performed using our Staining Membrane-associated Proteins protocol.

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.

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Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

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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_L) with a large cytoplasmic domain capable of signal-transduction, and several receptor isoforms with short cytoplasmic domains (OB-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. Circulating soluble OB-R, complexed to leptin, has been detected in mouse serum. Serum soluble OB-R levels have been shown to increase during pregnancy. OB-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-R_S transcripts have been found in multiple tissues, including the choroid plexus, lung, kidney and primitive hematopoietic cell populations. OB-R is 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. Mouse OB-R long form encodes a 1162 amino acid (aa) residue precursor protein with a 22 aa residue signal peptide, an 817 aa residue extracellular domain, a 21 aa residue transmembrane domain and a 302 aa residue cytoplasmic domain. The extracellular domain of OB-R contains two hemopoietin receptor domains, a fibronectin type III domain and the WSXWS domain. Recombinant murine soluble OB-R binds 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. Lee, J. I. and J.M. Friedman (1996) Nature **379**:632.
4. Tartaglia, L.A. (1997) J. Biol. Chem. **272**:6093.
5. Gavrilova, O. *et al*. (1997) J. Biol. Chem. **272**:30546.

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