Human Leptin R
Alexa Fluor® 700-conjugated Antibody

Monoclonal Rat IgG_{2A} Clone # 55305
Catalog Number: FAB497N
100 µg

DESCRIPTION

Species Reactivity	Human
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
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *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.*

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10^6 cells	HEK293 human cell line transfected with mouse Leptin R and EGFP

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

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.

PRODUCT SPECIFIC NOTICES

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