Mouse Leptin/OB Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2299A
Catalog Number: MAB4981

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Leptin/OB in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2299A
Purification	Protein A or G purified from cell culture supernatant
Immunogen	*E. coli*-derived mouse Leptin/OB protein Val22-Cys167 Accession # Q544U0
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.

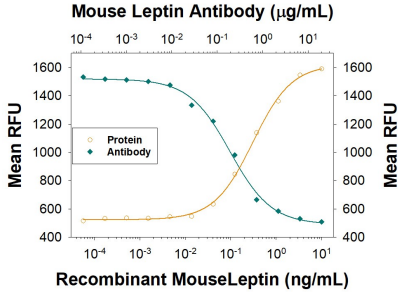
APPLICATIONS

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.*

Neutralization	Measured by its ability to neutralize Leptin/OB-induced proliferation in the BaF3 mouse pro-B cell line transfected with human Leptin R. The Neutralization Dose (ND50) is typically 0.1-1 μg/mL in the presence of 1 ng/mL Recombinant Mouse Leptin/OB.
ELISA	This antibody functions as an ELISA detection antibody when paired with Rabbit Anti-Mouse Leptin/OB Monoclonal Antibody (Catalog # MAB498). This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Mouse Leptin DuoSet ELISA Kit (Catalog # DY498-05) for convenient development of a sandwich ELISA or the Mouse/Rat Leptin Quantikine ELISA Kit (Catalog # MOB00B) for a complete optimized ELISA.

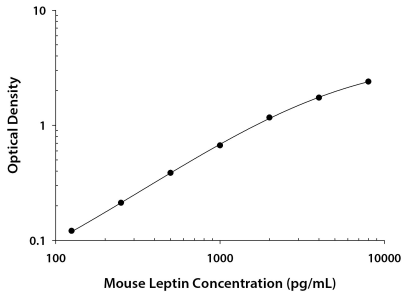
DATA

Neutralization



Cell Proliferation Induced by Leptin/OB and Neutralization by Mouse Leptin/OB Antibody. Recombinant Mouse Leptin/OB (Catalog # 498-OB) stimulates proliferation in the BaF3 mouse pro-B cell line transfected with human Leptin R in a dose-dependent manner (orange line) as measured by Resazurin (Catalog # AR002). Proliferation elicited by Recombinant Mouse Leptin/OB (1 ng/mL) is neutralized (green line) by increasing concentrations of Rabbit Anti-Mouse Leptin/OB Monoclonal Antibody (Catalog # MAB3981). The ND_{50} is typically 0.1-1 μg/mL.

ELISA



Mouse Leptin/OB ELISA Standard Curve. Recombinant Mouse Leptin/OB protein was serially diluted 2-fold and captured by Rabbit Anti-Mouse Leptin/OB Monoclonal Antibody (Catalog # MAB498) coated on a Clear Polystyrene Microplate (Catalog # DY990). Rabbit Anti-Mouse Leptin/OB Monoclonal Antibody (Catalog # Catalog # MAB4981) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

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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BACKGROUND

Leptin is a protein product of the mouse *obese* gene. Mice with mutations in the *obese* gene that block the synthesis of Leptin have been found to be obese and diabetic and to have reduced activity, metabolism and body temperature. cDNA clones encoding Leptin have been isolated from human, simian, mouse and rat cells. Mouse Leptin shares approximately 96% and 84% sequence identity with the rat and human protein, respectively. Mouse Leptin cDNA encodes a 167 amino acid residue protein with a 21 amino acid residue signal sequence that is cleaved to yield the 146 amino acid residue mature protein. The expression of Leptin mRNA has been shown to be restricted to adipose tissue.

A high-affinity receptor for Leptin (OB-R) with homology to gp130 and the G-CSF receptor has been cloned. OB-R mRNA has been shown to be expressed in the choroid plexus and in the hypothalamus. OB-R has also been identified as an isoform of B219, a sequence that is expressed in at least four isoforms in very primitive hematopoietic cell populations and in a variety of lymphohematopoietic cell lines (1-3). The possible roles of Leptin in body weight regulation, hematopoiesis and reproduction are being investigated.

References:

1. Considine, R. and J. Caro (1996) Clinical Chemistry **42**:843.
2. Tartaglia, L.A. *et al.* (1995) Cell **83**:1263.
3. Cioffi, J.A. *et al.* (1996) Nature Medicine **2**:585.

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