

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Leptin/OB in ELISAs and Western blots. In sandwich immunoassays, less than 45% cross-reactivity with recombinant rat (rr) Leptin is observed and less than 0.2% cross-reactivity with rhLeptin and rmLeptin R is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>E. coli</i> -derived recombinant mouse Leptin (R&D Systems, Catalog # 498-OB) Val22-Cys167 Accession # Q544U0
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

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	0.1 µg/mL	Recombinant Mouse Leptin/OB (Catalog # 498-OB)
Mouse Leptin/OB Sandwich Immunoassay		Reagent
ELISA Capture	0.2-0.8 µg/mL	Mouse Leptin/OB Antibody (Catalog # AF498)
ELISA Detection	0.1-0.4 µg/mL	Mouse Leptin/OB Biotinylated Antibody (Catalog # BAF498)
Standard		Recombinant Mouse Leptin/OB (Catalog # 498-OB)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 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 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.