

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Leptin/OB in ELISAs and Western blots. In ELISAs, this antibody shows less than 0.1% cross-reactivity with recombinant mouse (rm) and rrLeptin. In Western blots, this antibody shows no cross-reactivity with rmLeptin.
Source	Monoclonal Mouse IgG ₁ Clone # 44804
Purification	Protein A or G purified from ascites
Immunogen	<i>E. coli</i> -derived recombinant human Leptin Val22-Cys167 Accession # P41159
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.

Human Leptin/OB Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human Leptin/OB Antibody (Catalog # MAB398)
ELISA Detection	0.5-2.0 µg/mL	Human Leptin/OB Biotinylated Antibody (Catalog # BAM398)
Standard		Recombinant Human Leptin/OB (Catalog # 398-LP)

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.
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, diabetic and to have reduced activity, metabolism and body temperature. cDNA clones encoding Leptin have been isolated from human, simian, mouse and rat cells. Human Leptin shares approximately 84% sequence identity with the mouse protein. Human 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 roles of leptin in body weight regulation, hematopoiesis and reproduction continue to be 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.