

Leptin Antibody
Purified Rabbit Polyclonal Antibody
Catalog # ABV11594**Specification**

Leptin Antibody - Product Information

Application	WB
Primary Accession	P50596
Other Accession	BAA08529
Reactivity	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	18866

Leptin Antibody - Additional Information**Gene ID** 25608**Other Names**

LEP; OB; OBS; Obese Protein, Leptin

Target/Specificity

Leptin

Formulation

100 µg (0.5 mg/ml) affinity purified rabbit anti-rat Leptin polyclonal antibody in phosphate buffered saline (PBS), pH 7.2, containing 30% glycerol, 0.5% BSA, 0.01% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Background Descriptions**Precautions**

Leptin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Leptin Antibody - Protein Information**Name** Lep**Synonyms** Ob**Function**

Key player in the regulation of energy balance and body weight control. Once released into the circulation, has central and peripheral effects by binding LEPR, found in many tissues, which results in the activation of several major signaling pathways (By similarity) (PubMed:<a

[11677594](http://www.uniprot.org/citations/11677594)). In the hypothalamus, acts as an appetite-regulating factor that induces a decrease in food intake and an increase in energy consumption by inducing anorexigenic factors and suppressing orexigenic neuropeptides, also regulates bone mass and secretion of hypothalamo-pituitary-adrenal hormones. In the periphery, increases basal metabolism, influences reproductive function, regulates pancreatic beta-cell function and insulin secretion, is pro-angiogenic for endothelial cell and affects innate and adaptive immunity (By similarity) (PubMed:[11460888](http://www.uniprot.org/citations/11460888), PubMed:[10482243](http://www.uniprot.org/citations/10482243), PubMed:[9003024](http://www.uniprot.org/citations/9003024), PubMed:[11677594](http://www.uniprot.org/citations/11677594)). In the arcuate nucleus of the hypothalamus, activates by depolarization POMC neurons inducing FOS and SOCS3 expression to release anorexigenic peptides and inhibits by hyperpolarization NPY neurons inducing SOCS3 with a consequent reduction on release of orexigenic peptides (By similarity) (PubMed:[10482243](http://www.uniprot.org/citations/10482243), PubMed:[9003024](http://www.uniprot.org/citations/9003024)). In addition to its known satiety inducing effect, has a modulatory role in nutrient absorption. In the intestine, reduces glucose absorption by enterocytes by activating PKC and leading to a sequential activation of p38, PI3K and ERK signaling pathways which exerts an inhibitory effect on glucose absorption (By similarity). Acts as a growth factor on certain tissues, through the activation of different signaling pathways increases expression of genes involved in cell cycle regulation such as CCND1, via JAK2-STAT3 pathway, or VEGFA, via MAPK1/3 and PI3K-AKT1 pathways (By similarity). May also play an apoptotic role via JAK2- STAT3 pathway and up-regulation of BIRC5 expression (By similarity). Pro-angiogenic, has mitogenic activity on vascular endothelial cells and plays a role in matrix remodeling by regulating the expression of matrix metalloproteinases (MMPs) and tissue inhibitors of metalloproteinases (TIMPs) (PubMed:[11460888](http://www.uniprot.org/citations/11460888)). In innate immunity, modulates the activity and function of neutrophils by increasing chemotaxis and the secretion of oxygen radicals. Increases phagocytosis by macrophages and enhances secretion of pro-inflammatory mediators. Increases cytotoxic ability of NK cells (Probable). Plays a pro-inflammatory role, in synergy with IL1B, by inducing NOS2 which promotes the production of IL6, IL8 and Prostaglandin E2, through a signaling pathway that involves JAK2, PI3K, MAP2K1/MEK1 and MAPK14/p38 (By similarity). In adaptive immunity, promotes the switch of memory T- cells towards T helper-1 cell immune responses (By similarity). Increases CD4(+)CD25(-) T-cell proliferation and reduces autophagy during TCR (T-cell receptor) stimulation, through MTOR signaling pathway activation and BCL2 up-regulation (By similarity).

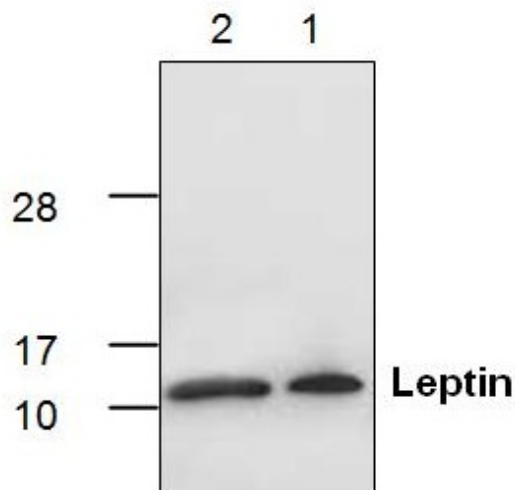
Cellular Location
Secreted.

Leptin Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Leptin Antibody - Images



Western blot analysis using recombinant rat Leptin. Lane1: 5ng; Lane2: 10ng.

Leptin Antibody - Background

Leptin is a recently identified 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. The expression of leptin mRNA has been shown to be restricted to adipose tissue. Leptin plays an important role in reproduction, immunological response and neuroendocrine signaling.