abcepta
10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-Leptin (RABBIT) Antibody

Leptin Antibody
Catalog # ASR3885

Specification

Anti-Leptin (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Mouse**
Reactivity	**Human, Mouse**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**This antiserum against Mouse Leptin has been tested for use in ELISA and immunoblotting. Reactivity in other immunoassays is unknown. This product has been assayed by immunoblot against tissue homogenates using HRP Goat-anti-Rabbit IgG [H&L] (code # 611-1302) and TMB as a substrate. A working dilution range of 1:200 to 1:400 is suggested for this application. This product has been assayed by ELISA against recombinant mouse leptin using HRP Conjugated Anti-Rabbit IgG [H&L] (Goat) (code # 611-1302) and ABTS as a substrate for 30 minutes at room temperature. A working dilution of 1:2,400 is suggested for this product.**
Physical State	**Liquid (sterile filtered)**
Immunogen	**This whole rabbit serum was prepared by repeated immunizations with recombinant mouse leptin 16,000 MW produced in E. coli.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-Leptin (RABBIT) Antibody - Additional Information

Gene ID 16846

Other Names
16846

Purity
This antiserum has been heated to 56°C for 30 minutes. The antibody will recognize recombinant and native 16 kDa leptin from mouse and human. Reactivity with leptin from other sources is unknown.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended

storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Leptin (RABBIT) 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 (PubMed:11373681, PubMed:12594516, PubMed:15899045, PubMed:16825198, PubMed:20620997). In the hypothalamus, acts as an appetite-regulating factor that induces a decrease in food intake and an increase in energy consumption by inducing anorexinogenic 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:10660043, PubMed:12594516, PubMed:25060689, PubMed:25383904, PubMed:8589726, PubMed:9732873). 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:11373681, PubMed:20620997). 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. 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) (PubMed:16825198, PubMed:20620997). 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:16825198). 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-

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inflammatory role, in synergy with IL1B, by inducing NOS2 wich promotes the production of IL6, IL8 and Prostaglandin E2, through a signaling pathway that involves JAK2, PI3K, MAP2K1/MEK1 and MAPK14/p38 (PubMed:15899045). In adaptive immunity, promotes the switch of memory T-cells towards T helper-1 cell immune responses (By similarity). Increases CD4(+)CD25(-) T cells proliferation and reduces autophagy during TCR (T cell receptor) stimulation, through MTOR signaling pathway activation and BCL2 up-regulation (PubMed:25060689).

Cellular Location
Secreted.

Anti-Leptin (RABBIT) 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 Cytomety
- Cell Culture

Anti-Leptin (RABBIT) Antibody - Images

Anti-Leptin (RABBIT) Antibody - Background

Leptin is a key player in the regulation of energy balance and body weight control. Obesity associated leptin is the product of the OB gene and has been identified with Type II diabetes. Once released into the circulation, it has central and peripheral effects by binding LEPR, found in many tissues, which results in the activation of several major signaling pathways. It acts as an appetite-regulating factor, regulates bone mass and secretion of hypothalamo-pituitary-adrenal hormones, it increases basal metabolism, influences reproductive function, regulates pancreatic beta-cell function and insulin secretion, it induces FOS and SOCS3 expression to release anorexigenic peptides. It has a modulatory role in nutrient absorption. It 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. It 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. It may also play an apoptotic role via JAK2-STAT3 pathway and up-regulation of BIRC5 expression. It 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. In adaptive immunity, promotes the switch of memory T-cells towards T helper-1 cell immune responses. Increases CD4+CD25- T cells proliferation and reduces autophagy during TCR (T cell receptor) stimulation, through MTOR signaling pathway activation and BCL2 up-regulation.