Leptin Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10937

Specification

Leptin Antibody - Product Information

<table>
<thead>
<tr>
<th>Application</th>
<th>WB</th>
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<td>Other Accession</td>
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<td>Host</td>
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<td>Clonality</td>
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<td>Calculated MW</td>
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</table>

Leptin Antibody - Additional Information

Gene ID 3952

Application & Usage
Western blot analysis (0.5-4 µg/ml). However, the optimal conditions should be determined individually. Recombinant human Leptin can be used as a positive control.

Other Names
LEP; OB; OBS; Obese Protein, Leptin

Target/Specificity
Leptin

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg (0.5 mg/ml) affinity purified rabbit anti-human 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.

Reconstitution & Storage
-20 °C

Background Descriptions

Western blot analysis with recombinant human Leptin. Lane 1: 10 ng rh-Leptin; Lane 2: 50 ng rh-Leptin.

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. 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. Leptin plays an important role in reproduction, immunological response and neuroendocrine signaling.
Precautions
Leptin Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Leptin Antibody - Protein Information

Name LEP (HGNC:6553)

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:<a href="http://www.uniprot.org/citations/17344214" target="_blank">17344214</a>, PubMed:<a href="http://www.uniprot.org/citations/15899045" target="_blank">15899045</a>, PubMed:<a href="http://www.uniprot.org/citations/19688109" target="_blank">19688109</a>). 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:<a href="http://www.uniprot.org/citations/8589726" target="_blank">8589726</a>, PubMed:<a href="http://www.uniprot.org/citations/11460888" target="_blank">11460888</a>, PubMed:<a href="http://www.uniprot.org/citations/19688109" target="_blank">19688109</a>). 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). 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 (PubMed:<a href="http://www.uniprot.org/citations/24340098" target="_blank">24340098</a>). Acts as a growth factor on certain tissues, through the activation of different signaling pathways increases expression of genes involved in cell

Tissue Location
Adipose tissue is the main source of leptin. It is also produced by other peripheral tissues such as the skeletal muscle (PubMed:7789654, PubMed:16052473, PubMed:12448771). Expressed by intercalated and striated tracts of submandibular and parotid salivary gland intralobular ducts (PubMed:12448771). Detected by fundic epithelium of the gastric mucosa (PubMed:10896907). Secreted into blood and gastric juice (PubMed:10896907).

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