Leptin Antibody

**Tested Species Reactivity**
- Human (Hu)
- Mouse (Ms)
- Rat (Rt)
- Ovine (Ov)

**Published Species Reactivity**
- Human (Hu)
- Avian (Av)
- Mouse (Ms)
- Porcine (Po)
- Rat (Rt)

**Tested Applications**
- Western Blot (WB): 1:200 - 1:1000
- Immunocytochemistry (ICC): 1:50 - 1:200
- Immunohistochemistry (Frozen): 1:50 - 1:200

**Published Applications**
- Western Blot (WB): See publications
- Immunocytochemistry (ICC): See publications
- Immunohistochemistry (IHC): See publications
- Blocking Assay (BLOCK): See publications

**Details**
- **Catalog Number:** PA1-051
- **Size:** 50 µl
- **Class:** Polyclonal
- **Type:** Antibody
- **Clone:** Rabbit
- **Immunogen:** Synthetic peptide corresponding to residues Q(25) K V Q D D T K T L I K T I V T R I N D(44) of mouse Leptin.

**Form Information**
- **Form:** Liquid
- **Concentration:** 2mg/ml
- **Purification:** Antigen affinity chromatography
- **Storage Buffer:** PBS with 1mg/ml BSA
- **Preservative:** 0.05% sodium azide
- **Storage Conditions:** -20° C, Avoid Freeze/Thaw Cycles

**Product Specific Information**
PA1-051 detects leptin from human, mouse, sheep and rat samples.

PA1-051 has been successfully used in Western blot, immunocytochemistry and immunohistochemistry experiments. By Western blot, this antibody detects an ~16 kDa protein representing leptin from 3T3-L1 cell extract. Immunohistochemical staining of leptin in sheep brain with PA1-051 results in staining of the ventromedial hypothalamus.

The PA1-051 immunogen is a synthetic peptide corresponding to residues Q(25) K V Q D D T K T L I K T I V T R I N D(44) of mouse Leptin. This sequence is completely conserved between mouse and bovine.

Leptin, the obese (ob) gene product, is a small protein expressed in and secreted from adipose tissue of normal rodents. Studies suggest leptin acts as a circulating hormone capable of regulating body-weight homeostasis and energy balance. One possible target tissue for leptin is the hypothalamus, a proposed control center for satiety and energy expenditure.

Ob gene knockout mice are characterized by several metabolic abnormalities including hyperglycemia, hyperinsulinemia and insulin resistance, hyperglycemia, altered central nervous system activity, reduced metabolic rate of brown adipose tissue, and a large increase in white adipose tissue. Studies show that the administration of recombinant leptin to ob knockout mice reduces food intake and increases energy expenditure.

This product is for In Vitro experimental use only. Not for resale without express authorization.
Western Blot with anti-Leptin Polyclonal Antibody (PA1-051)
Western blot detection of leptin in mouse 3T3-L1 using PA1-051.

Immunohistochemistry with anti-Leptin Polyclonal Antibody (PA1-051)
Immunohistochemical staining of Leptin in sheep brain using PA1-051.
### PubMed References for Leptin Antibody

#### 6 Western Blot References

<table>
<thead>
<tr>
<th>Species / Dilution</th>
<th>Summary</th>
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<tbody>
<tr>
<td>Av / 1:5000</td>
<td>PA1-051 was used in western blot to investigate the localization of leptin expression in the dunlin. &lt;br&gt;&lt;br&gt;Gen Comp Endocrinol. 2006 Sep 15;148(3):336-9. &quot;Leptin is synthesized in the liver and adipose tissue of the dunlin (Calidris alpina).&quot;&lt;br&gt;Author(s): Kochan Z, Karbowska J, Meissner W&lt;br&gt;Number of Citations: 1&lt;br&gt;PubMed Article URL: <a href="http://www.ncbi.nlm.nih.gov/pubmed/16730725">http://www.ncbi.nlm.nih.gov/pubmed/16730725</a></td>
</tr>
<tr>
<td>Po / Not Cited</td>
<td>PA1-051 was used in immunohistochemistry and western blot to study the localization of the leptin and the obesity receptor in the small intestine and colon.&lt;br&gt;&lt;br&gt;J Histochem Cytochem. 2008 Jul;56(7):777-85. &quot;Leptin and the obesity receptor (OB-R) in the small intestine and colon: a colocalization study.&quot;&lt;br&gt;Author(s): Hansen GH, Niels-Christiansen LL, Danielsen EM&lt;br&gt;Number of Citations: 1&lt;br&gt;PubMed Article URL: <a href="http://www.ncbi.nlm.nih.gov/pubmed/18413648">http://www.ncbi.nlm.nih.gov/pubmed/18413648</a></td>
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#### 2 Immunocytochemistry References

<table>
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<tr>
<td>Ms / 1:1,000</td>
<td>PA1-051 was used in immunocytochemistry and blocking/activating experiment to study the change of leptin immunoreactivity in diabetic rats.&lt;br&gt;&lt;br&gt;Neuroreport. 1999 Feb 5;10(2):437-42. &quot;Leptin immunoreactivity in the central nervous system in normal and diabetic rats.&quot;&lt;br&gt;Author(s): Li HY, Wang LL, Yeh RS&lt;br&gt;Number of Citations: 3&lt;br&gt;PubMed Article URL: <a href="http://www.ncbi.nlm.nih.gov/pubmed/10203350">http://www.ncbi.nlm.nih.gov/pubmed/10203350</a></td>
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## 1 Immunohistochemistry Reference

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<td>PA1-051 was used in immunohistochemistry and western blot to study the localization of the leptin and the obesity receptor in the small intestine and colon.</td>
</tr>
</tbody>
</table>

"Leptin and the obesity receptor (OB-R) in the small intestine and colon: a colocalization study."  
Author(s): Hansen GH, Niels-Christiansen LL, Danielsen EM  
Number of Citations: 1  

## 1 Blocking Assay Reference

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<tr>
<td>Rt / Not Cited</td>
<td>PA1-051 was used in immunocytochemistry and blocking/activating experiment to study the change of leptin immunoreactivity in diabetic rats.</td>
</tr>
</tbody>
</table>

"Leptin immunoreactivity in the central nervous system in normal and diabetic rats."  
Author(s): Li HY, Wang LL, Yeh RS  
Number of Citations: 3  