

## Anti-Leptin Antibody (5I154)

### Product Details

Ig Type:	Mouse IgG2b
Reactivity:	Human
Conjugation:	Unconjugated
Clone:	5I154
Purification:	Protein A

### Applications

Application:	ELISA(Det)
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### Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles. Preservative-Free.
Shipping:	Shipping with blue ice.

### Antigen Details

Immunogen:	Recombinant Protein: Human Leptin Protein (TMPY-00875)
Antigen Species:	Human
Synonyms:	ob;obese;leptin
Biology Area:	Neurotransmitter Associated Enzymes

### Research Background

Leptin is one of the most important hormones secreted by adipocytes, as an adipokine that modulates multiple functions including energy homeostasis, thermoregulation, bone metabolism, endocrine, and pro-inflammatory immune responses. The circulating leptin levels serve as a gauge of energy stores, thereby directing the regulation of energy homeostasis, neuroendocrine function, and metabolism. Recent studies suggest that leptin is physiologically more important as an indicator of energy deficiency, rather than energy excess, and may mediate adaptation by driving increased food intake and directing neuroendocrine function to conserve energy, such as inducing hypothalamic hypogonadism to prevent fertilization. One of these functions is the connection between nutritional status and immune competence. The adipocyte-derived hormone Leptin has been shown to regulate the immune response, innate, and adaptive response, both in normal and pathological conditions. Thus, Leptin is a mediator of the inflammatory response. Leptin has a dual effect on bone, acting by two independent mechanisms. As a signal molecule with growth factor characteristics, leptin can stimulate osteoblastic cells and inhibit osteoclast formation and activity, thus promoting osteogenesis. However, as a molecule that stimulates sympathetic neurons in the hypothalamus, leptin indirectly inhibits bone formation. This inhibitory effect of leptin mediated by activation of the sympathetic nervous system can be abrogated by the application of blood pressure-reducing beta-blockers, which also inhibit receptors of hypothalamic adrenergic neurons. Leptin appears to regulate some features defining Alzheimer's disease (AD) at the molecular and physiological level. Leptin can stimulate mitogenic and angiogenic processes in peripheral organs. Because leptin levels are elevated in obese individuals and excess body weight has been shown to increase breast cancer risk in postmenopausal women. Furthermore, a recent report clearly shows that targeting leptin signaling may reduce mammary carcinogenesis.

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