

Leptin Active Protein | LEP active protein

Leptin Protein, Human, Recombinant

CATALOG #
AAA257847

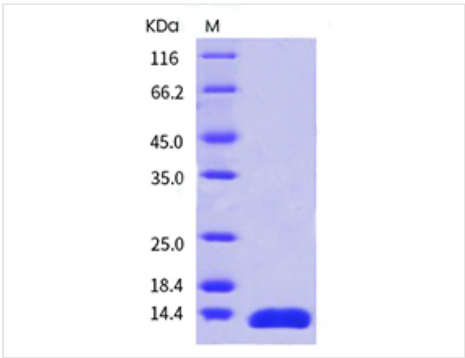
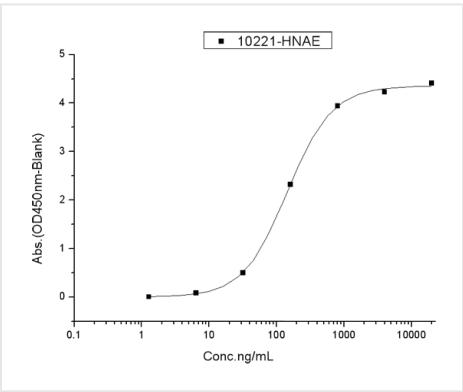
HOST
E Coli

PRODUCT SYNONYMS

Leptin; Leptin Protein; Human; Recombinant; Human Leptin Protein; LEPD Protein; OB Protein; OBS Protein; leptin; LEP active protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	>98% as determined by SDS-PAGE
Form/Format	Lyophilized from sterile PBS, pH7.4. Normally 5%-8% trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the hard copy of CoA.
Sequence	Val22-Cys1 67
Species	Human
Activity	Measured by its binding ability in a functional ELISA. 1. Immobilized human Leptin at 1.25ug/ml (100uL/well) can bind human Leptin receptor Fc chimera with a linear range of 0.032-4.0ug/ml. 2. Immobilized human Leptin at 5ug/ml (100uL/well) can bind human Leptin receptor his with a linear range of 0.032-4.0ug/ml.
Predicted N Terminal	Met
Tag	Native
Protein Construction	A DNA sequence encoding the mature form of human Leptin (NP_000221.1)(Val 22-Cys 167) was expressed, with an additional Met.
Reconstitution	A hardcopy of COA with reconstitution instruction is sent along with the products. Please refer to it for detailed information.
Preparation and Storage	Samples are stable for up to twelve months from date of receipt at -20 degree C to -80 degree C. Store it under sterile conditions at -20 degree C to -80 degree C. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles. In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice.



SDS-PAGE

Application Data
Immobilized Human Leptin at 2 ug/mL (100 uL/well) can bind Human Leptin Receptor (His & hFc Tag), the EC50 of Human Leptin Receptor (His & hFc Tag) is 70-420 ng/mL.

ADDITIONAL INFORMATION

Related Product Information for LEP active protein	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.
Product Categories/Family for LEP active protein	Neurotransmitter Associated Enzymes; AMPK Signaling Pathway
References	Surmacz E. (2007) Obesity hormone leptin: a new target in breast cancer Breast Cancer Res. 9(1): 301.Wodarski K, et al. (2009) Leptin as a modulator of osteogenesis. Ortop Traumatol Rehabil. 11(1): 1-6.Tezapsidis N, et al. (2009) Leptin: a novel therapeutic strategy for Alzheimer's disease. J Alzheimers Dis. 16(4): 731-40.Cai C, et al. (2009) Leptin in non-autoimmune inflammation. Inflamm Allergy Drug Targets. 8(4): 285-91.Fernndez-Riejos P, et al. (2010) Role of leptin in the activation of immune cells. Mediators Inflamm. 2010: 568343.Kelesidis T, et al. (2010) Narrative review: the role of leptin in human physiology: emerging clinical applications. Ann Intern Med. 152(2): 93-100.

NCBI AND UNIPROT INFORMATION

NCBI GI #	4557715
NCBI GeneID	3952
NCBI Accession #	NP_000221.1
NCBI GenBank Nucleotide #	NM_000230.2
UniProt Accession #	P41159; O15158; Q56A88

Molecular Weight	18,641 Da
NCBI Official Full Name	leptin
NCBI Official Synonym Full Names	leptin
NCBI Official Symbol	LEP
NCBI Official Synonym Symbols	OB; OBS; LEPD
NCBI Protein Information	leptin; obese protein; obesity factor; obese, mouse, homolog of; leptin (murine obesity homolog); leptin (obesity homolog, mouse)
UniProt Protein Name	Leptin
UniProt Gene Name	LEP
UniProt Synonym Gene Names	OB; OBS
UniProt Entry Name	LEP_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://www.aaabiotech.com/e-coli-lep-active-protein/leptin/257847>