Recombinant Human Leptin Receptor

Cat. No. LEPR-1249H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Leptin Binding Domain also called Leptin soluble receptor produced in*E.Coli*is a single, non-glycosylated, polypeptide chain containing 208 amino acids and having a molecular mass of 24.5 kDa. Leptin Receptor consists of the cytokine binding domain of leptin receptor amino acids 428-635 of human leptin receptor. The Leptin Binding Domain is purified by proprietary chromatographic techniques.
Species	Human
Source	E.coli
ProteinLength	428-635 a.a.
Description	Leptin receptor (LEPR), also known as OB-R and B219, is a single-transmembrane domain receptor of the cytokine receptor family. Leptin receptor exists as homodimer and binds Leptin with high affinity, thus mediates the biological function of the adipocyte-specific hormone Leptin. LEPR is expressed at high levels in hematopoietic stem cells, lymphohematopoietic cell lines, as well as adult reproductive organs. Several isoforms of LEPR have been identified, and LEPR structurally contains two hemopoietin receptor domains, a fibronectin type III domain and a WSXWS domain within the extracellular region. Interaction of leptin and leptin receptor is crucial for body weight and bone mass regulation in mammals through hypothalamic effects on satiety and energy expenditure. Meanwhile, research data supports a leptin receptor activation model based on ligand-induced conformational changes.

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Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation	The protein was lyophilized from a concentrated (1mg/ml) solution with 0.0045mM NaHCO3.
Solubility	The lyophilized Leptin Binding Domain is very soluble in water and most aqueous buffers below and above the isoelectric point.
Purity	Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Amino Acid Sequence	The sequence of the first four N-terminal amino acids was determined and was found to be Ala-Thr-Pro-Val.
Biological Activity	Biological Activity is evidenced by high affinity binding of mammalian leptins at 1:1 molar ratio.
Protein Content	Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 2.45 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a calibrated solution of Leptin Binding Domain as a Reference Standard.
Stability	Lyophilized Leptin Binding Domain although stable at room temperature, should be stored desiccated below 0℃. Reconstituted Leptin is best stored refrigerated at 4℃. Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name	LEPR leptin receptor [Homo sapiens]

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Synonyms	LEPR; leptin receptor; OBR; CD295; OB receptor; DB; Leptin receptor; CD295 antigen; LEP-R; OB-R; HuB219; OTTHUMP00000010694; OTTHUMP00000010693
Gene ID	3953
mRNA Refseq	NM_001003679
Protein Refseq	NP_001003679
MIM	601007
UniProt ID	P48357
Chromosome Location	1p31
Pathway	Adipocytokine signaling pathway; Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway; Neuroactive ligand-receptor interaction
Function	cytokine receptor activity; peptide hormone binding; protein binding; protein-hormone receptor activity

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