Active Recombinant Rat Lep Protein (147 aa)

Cat. No. Lep-342L **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant rat Leptin (rrLeptin) produced in E. coli is a single non-glycosylated polypeptide chain containing 147 amino acids. A fully biologically active molecule, rrLeptin has a molecular mass of 16.3 kDa analyzed by reducing SDS-PAGE and is obtained by proprietary chromatographic techniques.
Species	Rat
Source	E.coli
ProteinLength	147
Description	Leptin is a cytokine belonging to the Interleukin 6 family, and has a four-helix bundle structure. Leptin is encoded by the ob gene, and produced and secreted by white adipose tissue. The receptors of Leptin are Type I cytokine receptors, which exist in two different forms: a short form expressed in multiple tissues, and a long form expressed exclusively in the central nervous system (CNS). Upon binding to Leptin, the receptors activate the JAK/STAT3 pathway and PI3K, and stimulate transcriptional programs that regulate feeding behavior, metabolic rate, endocrine axes, and glucose fluxes. The deficiency of Leptin in human and mouse causes morbid obesity, diabetes, and neuroendocrine anomalies. Leptin also has effects on reproduction and immunity. In summary, Leptin is a pivotal cytokine controlling energy balance, and as such has profound effects on human health.
Form	Sterile Filtered White lyophilized (freeze-dried) powder.

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Bio-activity	ED50 < 10 μg/mL, measured by a cell proliferation assay using LoVo cells, corresponding to a specific activity of > 100 units/mg.
Molecular Mass	16.3 kDa, observed by reducing SDS-PAGE.
AA Sequence	MVPIHKVQDDTKTLIKTIVTRINDISHTQSVSARQRVTGLDFIPGLHPILSLSKMDQTLA VYQQILTSLPSQNVLQIAHDLENLRDLLHLLAFSKSCSLPQTRGLQKPESLDGVLEAS LYSTEVVALSRLQGSLQDILQQLDLSPEC
Endotoxin	< 0.2 EU/μg, determined by LAL method.
Purity	> 95% as analyzed by SDS-PAGE and HPLC.
Storage	Lyophilized recombinant rat Leptin (rrLeptin) remains stable up to 6 months at -80 centigrade from date of receipt. Upon reconstitution, rrLeptin remains stable up to 2 weeks at 4 centigrade or up to 3 months at -20 centigrade.
Storage Buffer	Lyophilized after extensive dialysis against 50 mM Tris, pH8.0.
Reconstitution	Reconstituted in ddH2O at 100 μg/mL.

GENE INFORMATION

Gene Name	Lep leptin [Rattus norvegicus]
Official Symbol	Lep
Synonyms	LEP; leptin; obesity factor; OB; obese;
Gene ID	25608

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mRNA Refseq	NM_013076
Protein Refseq	NP_037208
UniProt ID	P50596

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