

## 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.

 Tel: 1-631-559-9269 1-516-512-3133

 Email: [info@creative-biomart.com](mailto:info@creative-biomart.com)  Fax: 1-631-938-8127

 45-1 Ramsey Road, Shirley, NY 11967, USA

<b>Bio-activity</b>	ED50 < 10 µg/mL, measured by a cell proliferation assay using LoVo cells, corresponding to a specific activity of > 100 units/mg.
<b>Molecular Mass</b>	16.3 kDa, observed by reducing SDS-PAGE.
<b>AA Sequence</b>	MVPIHKVQDDTKTLIKTIVTRINDISHTQSVSARQRVTGLDFIPGLHPILSLSKMDQTLA VYQQILTSLPSQNVLQIAHDLENLRDLLHLLAFSKSCSLPQTRGLQKPESLDGVLEAS LYSTEVVALSRLQGSLQDILQQLDLSPEC
<b>Endotoxin</b>	< 0.2 EU/µg, determined by LAL method.
<b>Purity</b>	> 95% as analyzed by SDS-PAGE and HPLC.
<b>Storage</b>	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.
<b>Storage Buffer</b>	Lyophilized after extensive dialysis against 50 mM Tris, pH8.0.
<b>Reconstitution</b>	Reconstituted in ddH2O at 100 µg/mL.

## GENE INFORMATION

<b>Gene Name</b>	<a href="#">Lep leptin [ Rattus norvegicus ]</a>
<b>Official Symbol</b>	<a href="#">Lep</a>
<b>Synonyms</b>	LEP; leptin; obesity factor; OB; obese;
<b>Gene ID</b>	<a href="#">25608</a>

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mRNA Refseq [NM\\_013076](#)

Protein Refseq [NP\\_037208](#)

UniProt ID [P50596](#)

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