

Recombinant Rat Leptin, Antagonist Triple Mutant, Mono-PEG

Cat. No. Lep-28R **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant Rat Leptin Antagonist Triple Mutant is a single non-glycosylated polypeptide chain containing 146 amino acids and additional Ala at N-terminus and having a molecular mass of ~ 16 kDa. The Rat Leptin antagonist was mutated, resulting in L39A/D40A/F41A mutant. The Rat Leptin antagonist is bound to 20 kDa mono-PEG at N-terminus, resulting in 35.6 kDa. The Rat Leptin triple antagonist runs as a 48 kDa. Leptin Antagonist Triple Mutant Rat Recombinant was purified by proprietary chromatographic techniques.

Species Rat

Source E.coli

Description A 16-kDa peptide hormone secreted from white adipocytes and implicated in the regulation of food intake and energy balance. Leptin provides the key afferent signal from fat cells in the feedback system that controls body fat stores.

Physical Appearance White lyophilized (freeze-dried) powder.

Purity Greater than 99.0% as determined by: (a) Gel filtration analysis. (b) Analysis by SDS-PAGE.

Formulation The Rat Leptin triple antagonist was lyophilized from a concentrated (0.65 mg/ml) solution with 0.003 mM NaHCO₃.

Solubility It is recommended to reconstitute the lyophilized Leptin Antagonist Triple Mutant Rat

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Recombinant in sterile water or sterile 0.4% NaHCO₃ adjusted to pH 8-9. It is not less than 100 µg/ml, which can then be further diluted with other aqueous solutions.

Specific Activity

Leptin Antagonist Triple Mutant Rat Recombinant half-life in circulation after SC injection was over 20 hours. Leptin Antagonist Triple Mutant Rat Recombinant is capable of inhibiting leptin-induced proliferation of BAF/3 cells stably transfected with the long form of human leptin receptor. Leptin Antagonist Triple Mutant Rat Recombinant in vitro activity is 5-6 fold lower than the non-pegylated antagonist, though in vivo it has profound weight gain effect (as compared to the non-pegylated antagonist), resulting mainly from increased food intake.

Protein Content

Protein quantization was carried out by UV spectroscopy at 280 nm using the absorbency value of 0.2 as the extinction coefficient for a 0.1% (1 mg/ml) solution at pH 8.0. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).

Stability

Lyophilized Leptin Antagonist Triple Mutant Rat Recombinant although stable at room temperature for several weeks, should be stored desiccated below -18°C. Upon reconstitution at > 0.1 Leptin mutant mg/ml and up to 2 mM and filter sterilization LEP mutant can be stored at 4°C or even room temperature for several weeks making it suitable for long term infusion studies using osmotic pumps. At lower concentration addition of a carrier protein (0.1% HSA or BSA) is suggested. Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name

[Lep leptin \[Rattus norvegicus \]](#)

Synonyms

Lep; leptin; OB; obese; Obesity (murine homolog, leptin)

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Gene ID	25608
mRNA Refseq	NM_013076
Protein Refseq	NP_037208
UniProt ID	P50596
Chromosome Location	4q22
Pathway	Adipocytokine signaling pathway; Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway; Neuroactive ligand-receptor interaction
Function	cytokine activity; growth factor activity; hormone activity; protein binding; peptide hormone receptor binding

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