

Recombinant Mouse Leptin, Antagonist Triple Mutant

Cat. No. Lep-18M Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Leptin Antagonist Triple Mutant is a single non-glycosylated polypeptide chain containing 146 amino and additional Ala at N-terminus acids and having a molecular mass of ~ 16 kDa. The Mouse Leptin antagonist was mutated, resulting in L39A/D40A/F41A mutant. The Mouse Leptin antagonist is bound to 20 kDa mono-PEG at N-terminus, resulting in 35.6 kDa. The Mouse Leptin triple antagonist runs as a 48 kDa. Leptin Antagonist Triple Mutant was purified by proprietary chromatographic techniques.
Species	Mouse
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.
Amino Acid Sequence	The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Val-Pro-Ile-Gln
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 Mouse Leptin triple antagonist was lyophilized from a concentrated (0.65mg/ml)

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solution with 0.003mM NaHCO₃.

Solubility

It is recommended to reconstitute the lyophilized Leptin Antagonist Triple Mutant Mouse Recombinant in sterile water or sterile 0.4% NaHCO₃ adjusted to pH 8-9, not less than 100g/ml, which can then be further diluted with other aqueous solutions.

Biological Activity

Leptin Antagonist Triple Mutant half-life in circulation after SC injection was over 20 hours. Leptin Antagonist Triple Mutant Mouse 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 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% (1mg/ml) solution at pH 8.0. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).

Storage

Lyophilized Leptin Antagonist Triple Mutant 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 2mM 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 [*Mus musculus*]

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Synonyms	Lep; Leptin; ob; obese
Gene ID	16846
mRNA Refseq	NM_008493
Protein Refseq	NP_032519
UniProt ID	P41160
Chromosome Location	6 A3.3; 6 10.5 cM
Pathway	Adipocytokine signaling pathway; Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway; Neuroactive ligand-receptor interaction
Function	growth factor activity; hormone activity; protein binding

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