

Recombinant Human Leptin

#R00475

Size: 200 µg

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.

- 1 month, 2 to 8 °C under sterile conditions after reconstitution.

- 3 months, -20 to -70 °C under sterile conditions after reconstitution.



Warning: This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

Background

Human Leptin plays a key role in regulating energy intake and energy expenditure, including appetite and metabolism. It is one of the most important adipose derived hormones. The Ob (Lep) gene (Ob for obese, Lep for leptin) is located on chromosome 7 in humans. The protein is manufactured primarily in the adipocytes of white adipose tissue, and the level of circulating leptin is directly proportional to the total amount of fat in the body. Leptin acts on receptors in the hypothalamus of the brain where it inhibits appetite by (1) counteracting the effects of neuropeptide Y (a potent feeding stimulant secreted by cells in the gut and in the hypothalamus); (2) counteracting the effects of anandamide (another potent feeding stimulant that binds to the same receptors as THC), and (3) promoting the synthesis of α -MSH, an appetite suppressant. This appetite inhibition is long-term, in contrast to the rapid inhibition of eating by cholecystokinin (CCK) and the

slower suppression of hunger between meals mediated by PYY3-36. The absence of leptin (or its receptor) leads to uncontrolled food intake and resulting obesity."

AA Sequence

VPIQKVQDDTKTLIKTIVTRINDISHTQSVSSKQKVTGL
DFIPGLHPILTLSKMDQTLAVYQQILTSMPSRNVIQISN
DLENLRDLLHVLAFSKSCHLPWASGLETDSLGGVLE
ASGYSTEVALSRLQGSLQDMLWQLDLSPGC

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq$ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Product Specification

Synonyms	Obese Protein, Obesity Factor
Accession	P41159
GeneID	3952
Species	Human
Source	Escherichia coli.
Molecular Weight	Approximately 16.0 kDa, a single non-glycosylated polypeptide chain containing 146 amino acids.
Purity	> 97 % by SDS-PAGE and HPLC analyses.
Biological Activity	Fully biologically active when compared to standard. The ED ₅₀ as determined by a chemotaxis bioassay using human Leptin R transfected BaF3 murine proB cells is less than 2 ng/ml, corresponding to a specific

	activity of > 5.0 × 10 ⁵ IU/mg.
Physical	Sterile Filtered White lyophilized
Appearance	(freeze-dried) powder.
Formulation	Lyophilized from a 0.2 μm filtered concentrated solution in 50 mm PB, pH 3.5, with 0.02 % Tween-20.
Endotoxin	Less than 1 EU/μg of rHuLeptin as determined by LAL method.