Recombinant Human Leptin (rHuLeptin)

PrimeGene Technical Data Sheet

Catalog Number:	301-06
Source:	*Escherichia coli.*
Molecular Weight:	Approximately 16.0 kDa, a single non-glycosylated polypeptide chain containing 146 amino acids.
Quantity:	200μg/1000μg/5000μg
AA Sequence:	VPIQKVQDDT KTLIKTIVTR INDISHTQSV SSKQKVTGLD FIPGLHPILT LSKMDQTLAV YQQILTSMPS RNVIQISNDL ENLRDLLHVL AFSKSCHLPW ASGLETLDSL GGVLEASGYS TEVVALSRLQ GSLQDMLWQL DLSPGC
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 Appearance:	Sterile Filtered White lyophilized (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.
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 ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.
Shipping:	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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.
Usage:	This material is offered by Shanghai PrimeGene Bio-Tech for research, laboratory or further evaluation purposes. **NOT FOR HUMAN USE**.

Human Leptin

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.