Recombinant Human Leptin

Certificate of Analysis and Data Sheet

Source:	Catalog No.
E.Coli	CTK-228

Background:

Leptin inhibits food intake and stimulates energy expenditure. Leptin also has thermogenic actions and regulates enzymes of fatty acid oxidation. Severe hereditary obesity in rodents and humans is caused by defects in leptin production .In addition to its critical role in the physiologic regulation of body weight leptin has a variety of other physiologic and pathologic functions resembling those of cytokines . These functions include the regulation of hematopoiesis , angiogenesis , wound healing , inflammation , and immune responses.

Description :

Recombinant Human Leptin produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 147 amino acids and having a molecular mass of 16,240 Dalton.

Recombinant Leptin is purified by proprietary chromatographic techniques.

Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation:

Recombinant Leptin was lyophilized from a concentrated (1mg/ml) solution with 0.0045mM $NaHCO_3$.

Solubility:

The lyophilized Leptin is very soluble in water and most aqueous buffers below and above the isoelectric point.

Stability:

Lyophilized Leptin although stable at room temperature, should be stored desiccated below 0° C. Reconstituted rHuLeptin is best stored refrigerated at 4° C.
Please avoid freeze-thaw cycles.

Purity:

Greater than 95.0% as determined by:
(a) Analysis by RP-HPLC.
(b) Anion-exchange FPLC.
(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

Amino acid sequence:

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Val-Pro-Ile-Gln.

Dimers and aggregates:

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

Biological Activity:

This Recombinant Human Leptin is fully biologically active when compared to standards. The ED50, calculated by the leptin-dependent stimulation of Human OB-R transfected murine BaF3 indicator cells is 0.5-1.6 ng/ml.

Endotoxin:

Less than 0.1 ng/µg (IEU/µg) of Leptin.

Protein content:

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 0.878 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a calibrated solution of Leptin as a Reference Standard.

Usage:

This material is offered for research, laboratory or further evaluation purposes.