

Name	Leptin Protein
Description	Leptin Human Recombinant
Pricings	
Shipped	At Room Temperature
Catalogue Number	CYT-228



Synonyms

OB Protein, Obesity Protein, OBS, Obesity factor.

Introduction

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.

Description

Leptin Human Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 146 amino acids and having a molecular mass of 16 kDa. The Leptin is purified by proprietary chromatographic techniques.

Source

Escherichia Coli.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

The protein was lyophilized from a concentrated (1mg/ml) solution with 0.0045mM NaHCO₃.

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 Leptin is best stored refrigerated at 4°C.

Purity

Greater than 95.0% as determined by:

- (a) Analysis by SEC-HPLC.
- (b) Analysis by SDS-PAGE.

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.

Biological Activity

Biological Activity is evidenced by inducing proliferation of BAF/3 cells stably transfected with the long form of human leptin receptor.

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

ProSpec's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

Safety Data Sheet

SDS

References

1. Title: Leptin and Amylin Act in an Additive Manner to Activate Overlapping Signaling Pathways in Peripheral Tissues In vitro and ex vivo studies in humans.
Publication: Published online before print September 24, 2010, doi: 10.2337/dc10-0518

~~Diabetes Care (Diabetes Care)~~ January 2011 vol. 34 no. 1 132-138 .

Link: <http://care.diabetesjournals.org/content/34/1/132.full>

2.Title:The Mammalian Target of Rapamycin as Novel Central Regulator of Puberty Onset via Modulation of Hypothalamic Kiss1 System.

Publication: Published online before print September 4, 2009, doi: 10.1210/en.2009-0096 *Endocrinology (Endocrinology)*, November 1, 2009 vol. 150 no. 11 5016-5026

Link:<http://endo.endojournals.org/content/150/11/5016.full>

3.Title:p38 Mitogen-Activated Protein Kinase and Liver X Receptor-? Mediate the Leptin Effect on Sterol Regulatory Element Binding Protein-1c Expression in Hepatic Stellate Cells.

Publication:Mol Med. 2012; 18(1): 10–18.

Published online 2011 October 3. doi: [10.2119/molmed.2011.00243](https://doi.org/10.2119/molmed.2011.00243)

Link:<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3269638/>

4. Title: PI3K integrates the effects of and leptin on large-conductance Ca²⁺-activated K⁺ channels in neuropeptide Y neurons of the hypothalamic arcuate nucleus

Publication: American Journal of Physiology-Endocrinology and Metabolism 298.2 (2010): E193-E201.

Link: <http://ajpendo.physiology.org/content/298/2/E193.shorty>