

## PRODUCT DATASHEET

### Leptin Human E. coli Tag free

**Cat. No.:** RD172001100

**Type:** Recombinant protein

**Size:** 0.1 mg

**Source:** E. coli

**Species:** Human

#### Description

Total 147 AA. MW: 16 kDa (calculated). UniProtKB acc.no. P41159.

#### Other names

Obesity factor, Obese protein, LEP, OB, OBS

#### Introduction to the molecule

Leptin, the product of the ob (obese) gene, is a single-chain 16 kDa proteohormone consisting of 146 amino acid residues. Leptin is produced by differentiated adipocytes, although production have been demonstrated in other tissues, such as fundus of the stomach, the skeletal muscle, the liver, and the placenta. Leptin is considered to play an important role in appetite control, fat metabolism and body weight regulation. It targets the central nervous system, in particular the hypothalamus, suppressing food intake and stimulating energy expenditure. In humans, leptin levels correlate with body mass index (BMI) and percentage body fat, and are elevated even in obese individuals. Leptin has a dual action; it decreases the appetite and increases energy consumption, causing more fat to be burned.

#### Research topic

Animal studies, Diabetology - Other Relevant Products, Energy metabolism and body weight regulation, Reproduction

#### Amino Acid sequence

AVPIQKVQDD TKTLIKTI VT RINDISHTQS VSSKQKVTGL DFIPGLHPIL TSKMDQTLA VYQQILTSMP SRNVIQISND  
LENLRDLLHV LAFSKSCHLP WASGLETLD LGGVLEASGY STEVVALSRL QGSLQDMLWQ LDLSPGC

#### Purity

>95%

#### Biological activity

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

#### Endotoxin

< 1.0 EU/ug

#### Formulation:

Filtered (0.4 µm) and lyophilized from 0.5 mg/ml in 5mM NaHCO<sub>3</sub>, pH= 7.4

#### Reconstitution:

Add deionized water to prepare a working stock solution of approximately 0.5 mg/mL and let the lyophilized pellet dissolve completely. Filter sterilize your culture media/working solutions containing this non-sterile product before using in cell culture.

### Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

### Storage, Stability/Shelf Life

Store lyophilized protein at  $-80^{\circ}\text{C}$ . Lyophilized protein remains stable until the expiry date when stored at  $-80^{\circ}\text{C}$ . Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at  $-80^{\circ}\text{C}$  for long term storage. Reconstituted protein can be stored at  $4^{\circ}\text{C}$  for a week.

### Quality control

BCA to determine quantity of the protein.

SDS PAGE to determine purity of the protein.

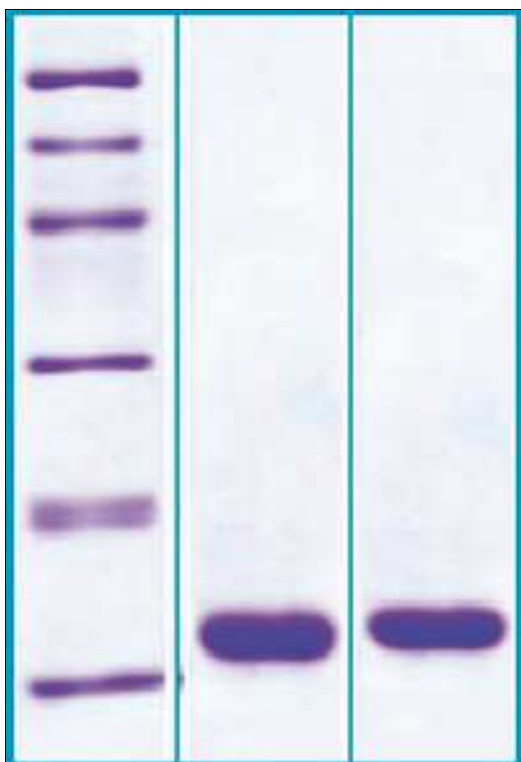
LAL to determine quantity of endotoxin.

### Applications

ELISA, Western blotting

### Note

This product is intended for research use only.



12% SDS-PAGE separation of Human Leptin

1. M.W. marker – 14, 21, 31, 45, 66, 97 kDa

2. reduced and heated sample, 7 $\mu\text{g}$ /lane

3. non-reduced and non-heated sample, 7 $\mu\text{g}$ /lane