**Leptin Human E. coli Tag free**

**Product Data Sheet**

**Type:** Recombinant  
**Cat. No.:** RD172001100  
**Tag:** Tagless  
**Source:** E. coli  
**Species:** Human  
**Other names:** Obesity factor, Obese protein, LEP, OB, OBS

**Description**

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

**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**

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

**Amino Acid Sequence**

AVPIQKVQDD TKTLIKTIVT RINDISHTQS VSSQKVTGL DFIPGLHPIL TLSKMDQTLA VYQQILTSMP SRNVQISND LENLRDLHV LAFSKSCHLP WASGLETLDG LGGVLEASGY STEVVALSRL QGSLQDMLMQ LDLSPGC

**Source**

E. coli

**Purity**

>95%

**SDS-PAGE gel**

12% SDS-PAGE separation of Human Leptin  
1. M.W. marker - 14, 21, 31, 45, 66, 97 kDa  
2. reduced and heated sample, 7µg/lane  
3. non-reduced and non-heated sample, 7µg/lane

**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 NaHCO₃, 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°C. Lyophilized protein remains stable until the expiry date when stored at -80°C. Aliquot reconstituted protein to avoid repeated freezing/thawing cycles and store at -80°C for long term storage. Reconstituted protein can be stored at 4°C for a week.

Quality Control Test
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.

References to this Product

- Johnstone AM, Murison SD, Duncan JS, Rance KA, Speakman, JR. Factors influencing variation in basal metabolic rate include fat-free mass, fat mass, age, and circulating thyroxine but not sex, circulating leptin, or triiodothyronine. *Am J Clin Nutr*. Nov;82(5):941-8 (2005)

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