

## Leptin

### Obesity Factor

rat, recombinant, *E. coli*

Cat. No.	Amount
PR-482	1 mg

For *in vitro* use only  
Quality guaranteed for 12 months  
Store at -20°C

### Avoid freeze / thaw cycles

### Form

Lyophilized. Leptin is lyophilized from a 1 mg/ml solution containing 0.0045 mM NaHCO<sub>3</sub>.

### Solubility

It is recommended to reconstitute the lyophilized Leptin in bidest H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

### Activity

ED<sub>50</sub>: < 0.35-0.06 ng/ml, calculated by the leptin-dependent stimulation of human OB-R transfected murine BaF3 indicator cells.

### Endotoxin

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

### Molecular Weight

16 kDa

### Purity

≥ 95% by SDS-PAGE and RP-HPLC

### Description

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.

Recombinant Rat Leptin produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 147 amino acids and having a molecular mass of 16.2 kDa. Recombinant Leptin is purified by proprietary chromatographic techniques.

### Selected References:

- Ju *et al.* (2001) Determination of rat leptin activity *in vitro* using a novel luciferase reporter assay. *Mol. Cells.* **12**:131.  
Park *et al.* (2001) Recombinant expression of biologically active rat leptin in *Escherichia coli*. *Protein Expr. Purif.* **22**:60.  
Landt *et al.* (1998) Radioimmunoassay of rat leptin: sexual dimorphism reversed from humans. *Clin. Chem.* **44**:565.  
Takaya *et al.* (1996) Molecular cloning of rat leptin receptor isoform complementary DNAs—identification of a missense mutation in Zucker fatty (fa/fa) rats. *Biochem. Biophys. Res. Commun.* **225**:75.