

Leptin

Obesity Factor

human, recombinant, *E. coli*

Cat. No.	Amount
PR-480	1 mg

For *in vitro* use only
Quality guaranteed for 12 months
Store at -4°C

Avoid freeze / thaw cycles

Form

Lyophilized. Leptin is lyophilized from a 1 mg/ml solution containing 0.0045 mM NaHCO₃.

Solubility

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

Activity

ED₅₀: < 0.5-1.6 ng/ml, calculated by the leptin-dependent stimulation of human OB-R transfected murine BaF3 indicator cells.

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 Human 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:

- LaMarca *et al.* (2004) Recombinant human leptin in women with hypothalamic amenorrhea. *N. Engl. J. Med.* **351**:2343.
Welt *et al.* (2004) Recombinant human leptin in women with hypothalamic amenorrhea. *N. Engl. J. Med.* **351**:987.
Cochran *et al.* (2004) Efficacy of recombinant methionyl human leptin therapy for the extreme insulin resistance of the Rabson-Mendenhall syndrome. *J. Clin. Endocrinol. Metab.* **89**:1548.
Zeyl *et al.* (2004) Interactions between temperature and human leptin physiology in vivo and in vitro. *Eur. J. Appl. Physiol.* **92**:571.
Lagarde *et al.* (2003) Development of radioimmunoassay for the measurement of human leptin in serum. *Nucl. Med. Rev. Cent. East. Eur.* **6**:105.
Wang *et al.* (2003) Mice body weight gain is prevented after naked human leptin cDNA transfer into skeletal muscle by electroporation. *J. Gene Med.* **5**:966.