

Leptin

Obesity Factor

murine, recombinant, *E. coli*

Cat. No.	Amount
PR-481	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 50 mM NH₄HCO₃ pH 8.0.

Solubility

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

Activity

Biological activity of murine Leptin is performed in two different mouse obesity models, ob/ob and NZO. Both strains of mice were treated via intraperitoneal injection once daily at a dose of 5 µg Leptin/gram body weight for a period of 14 days. Significant effects on body weight, food consumption, and plasma glucose levels were observed to salinetreated controls.

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 Murine 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:

- Gaja *et al.* (2001) [The importance of leptin in oncology– hypothesis or facts?] [Article in Czech] *Vnitř. Lek.* **47**:245.
- Theriault *et al.* (2001) Clinical evaluation of a new non-isotopic leptin immunoassay. *Clin. Lab. Sci.* **14**:6.
- Thomas (2004) Leptin and fragility fracture: evidence for a protective effect in humans. *Am. J. Med.* **117**:966.
- Schett *et al.* (2004) Serum leptin level and the risk of nontraumatic fracture. *Am. J. Med.* **117**:952.
- Iwamoto *et al.* (2004) The leptin receptor in human osteoblasts and the direct effect of leptin on bone metabolism. *Gynecol. Endocrinol.* **19**:97.
- Mami *et al.* (2005) Plasma leptin, insulin, and neuropeptide Y concentrations in infants. *Arch. Dis. Child. Fetal. Neonatal. Ed.* **90**:F86.