

## Recombinant Rat Leptin (rr Leptin)

**Synonyms:** OB Protein, Anti-Obesity Protein (AOBP), Obesity factor.

**Introduction:** A 16-kDa peptide hormone secreted from white adipocytes and implicated in the regulation of food intake and energy balance. Leptin provides the key afferent signal from fat cells in the feedback system that controls body fat stores.

**Description:** Recombinant rat Leptin produced in *E. Coli* is a single, non-glycosylated, polypeptide chain containing 147 amino acids and having a molecular mass of 16240 Dalton. The rr Leptin is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli*.

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation:** The protein was lyophilized from a concentrated (1 mg/ml) solution with 0.0045 mM NaHCO<sub>3</sub>.

**Solubility:** It is recommended to reconstitute the lyophilized rr Leptin in sterile H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rr Leptin although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rr Leptin should be stored at 4°C between 2-7 days and for future use below. For long term storage it is recommended to add a carrier protein (0,1% HSA or BSA). Please prevent freeze-thaw cycles.

**Purity:** Greater than 95.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

### Amino Acid Sequence:

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Val-Pro-Ile-His.

**Biological Activity:** rr Leptin is fully biologically active when compared to standards. The ED<sub>50</sub>, calculated by the leptin-dependant stimulation of human OB-R transfected murine BaF3 indicator cells is 0.35-0.06 ng/ml.

**Endotoxin:** Less than 0.1 ng/µg (IEU/µg) of rr Leptin

**Protein content:** Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm using the absorbency value of 0.201 as the extinction coefficient for a 0.1 % (1 mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (Intelli Genetics).
2. Analysis by RP-HPLC, using a calibrated solution of rat Leptin as a Reference Standard.

This material is offered for **research only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

<i>small</i>	200 µg	Cat.N°	13347007
<i>medium</i>	1000 µg	Cat.N°	13347008

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