

# Leptin

## Recombinant Mouse Leptin (OB)

**Catalog#:** L1103S: 1.0 mg  
 L1103L: 10.0 mg  
**Lot#:** On label

**Formulation:** Lyophilized powder lyophilized from a volatile buffer (50 mM NH<sub>4</sub>HCO<sub>3</sub>, pH 8.0).

**Preservative:** None.

**MW:** 16 kDa

**Purity:** >97% on 15% SDS-PAGE (See picture below).

**Source:** Recombinant mature protein expressed and purified from *E. coli*.

**Sterility:** 0.2 µm membrane-filtered and packaged aseptically.

**ED50:** ND

**Endotoxin:** ≤0.1 EU/µg, determined by Limulus Amebocyte Lysate (LAL) assay (Sigma)

**QC Tests:** SDS-PAGE, Native PAGE

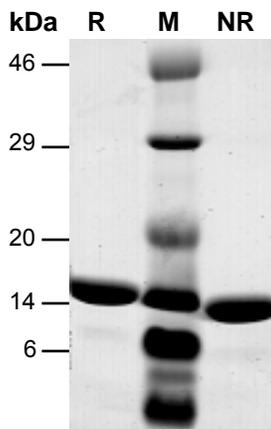
### Reconstitution and Use:

Reconstitute the contents of the vial using a sterile buffer (pH8.0 or above) to a concentration no less than 100µg/ml and aliquot for future use. (If the initial rehydration is too dilute, activity may be lost due to the non-specific adsorption to the container). The solution can then be further diluted to a working solution.

If the product is going to be used for applications requiring absolute asepsis, it's best to filter-sterilize the solution using a sterile and non-pyrogenic 0.2 µm membrane before use.

### Storage and Stability:

Upon receiving, store the product at -20°C. After reconstitution, store the working aliquots at 2-8°C for no more than 3 months. For extended storage, aliquot the rehydrated solution (≥100µg/ml) and freeze at -70°C or -20°C. Avoid repeated freezing and thawing. Dilute solutions stored at -20°C could lose activity faster.



Recombinant mouse leptin (25 µg) was resolved on a 12% SDS-PAGE, with (R) or without 2-mercapto-ethanol, and stained with Coomassie Blue.

## About Mouse Leptin

Leptin is a 16kDa (146 amino acid residues), non-glycosylated protein hormone involved in regulating body weight, metabolism and reproductive function. It is encoded by the obese (ob) gene and expressed predominantly by adipocytes consistent with the fact that body weight is sensed mainly as the total mass of fat in the body. Leptin is also secreted by cells in the epithelium of the stomach and in the placenta in smaller amounts. Leptin receptors are highly expressed in areas of the hypothalamus that are known to be important in regulating body weight, as well as in T lymphocytes and vascular endothelial cells.

### Amino Acid Sequence:

```
MVPIQKVQDD TKTLIKTIIVT RINDISHTQS VSAKQRVTGL
DFIPGLHPIL SLSKMDQTLA VYQQVLTSLP SQNVLQIAND
LENLRDLLHL LAFSKSCSLP QTSGLQKPES LDGVLEASLY
STEVVALSRL QGSLQDILQQ LDVSPES
```

### References:

- Cherhab FF, Mounzih K, Lu R, Lim ME: Early onset of reproductive function in normal female mice treated with leptin. *Science* 275:88, 1997.
- Clement K, Vaisse C, Lahlou N, et al: A mutation in the human leptin receptor gene causes obesity and pituitary dysfunction. *Nature* 392:398, 1998.
- Considine RV, Sinha MK, Heiman ML etc: Serum immunoreactive-leptin concentrations in normal-weight and obese humans. *New Eng J Med* 334:292, 1996.
- Friedman JM, Halaas JL: Leptin and the regulation of body weight in mammals. *Nature* 395:763, 1998.
- Halaas JL, Gajiwala KS, Maffei M, etc: Weight-reducing effects of the plasma protein encoded by the obese gene. *Science* 269:543, 1995.
- Montague CT, Faroozi IS, Whitehead JP, etc: Congenital leptin deficiency is associated with severe early-onset obesity in humans. *Nature* 387:903, 1997.
- Pelleymounter MA, Cullen MJ, Baker MB, etc: Effects of the obese gene product on body weight regulation in ob/ob mice. *Science* 269:540, 1995.
- Zhang Y, Proenca R, Maffei M, etc: Positional cloning of the mouse obese gene and its human homologue. *Nature* 372:425, 1994.

**For research use only, not for use in humans.**

# Leptin

## Recombinant Human Leptin (OB)

**Catalog#:** L1102S: 2.0 mg  
L1102L: 5.0 mg  
**Lot#:** On label

**Formulation:** Lyophilized from a volatile buffer (50 mM NH<sub>4</sub>HCO<sub>3</sub>, pH 8.0).  
**Preservative:** None.  
**MW:** 16 kDa  
**Purity:** >97% on 15% SDS-PAGE.  
**Source:** Recombinant mature protein expressed and purified from *E. coli*.  
**Sterility:** 0.2µm membrane-filtered and packaged aseptically.  
**ED50:** ND  
**Endotoxin:** ≤0.1 EU/µg determined by Limulus Amebocyte Lysate (LAL) Assay (Sigma).  
**QC Tests:** SDS-PAGE, Native PAGE

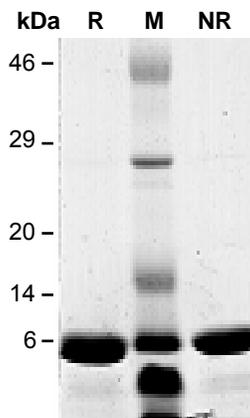
### Reconstitution and Use:

Reconstitute the contents of the vial using a sterile buffer (pH8.0 or above) to a concentration no less than 100 µg/ml and aliquot for future use. (If the initial rehydration is too dilute, activity may be lost due to the non-specific adsorption to the container). The solution can then be further diluted to a working solution.

If the product is going to be used for applications requiring absolute asepsis, it's best to filter-sterilize the solution using a sterile and non-pyrogenic 0.2 µm membrane before use.

### Storage and Stability:

Upon receiving, store the product at -20°C. After reconstitution, store the working aliquots at 2-8 °C for no more than 3 months. For extended storage, aliquot the rehydrated solution (≥100µg/ml) and freeze at -70°C or -20°C. Avoid repeated freezing and thawing. Dilute solutions stored at -20°C could lose activity faster.



Recombinant human leptin (25 µg of L1102S) was resolved on a 12% SDS-PAGE, with (R) or without 2-mercaptoethanol, and stained with Coomassie Blue.

## About Human Leptin

Leptin is a 16 kDa(146 amino acid residues), non-glycosylated protein hormone involved in regulating body weight, metabolism and reproductive function. It is encoded by the obese (ob) gene and expressed predominantly by adipocytes consistent with the fact that body weight is sensed mainly as the total mass of fat in the body. Leptin is also secreted by cells in the epithelium of the stomach and in the placenta in smaller amounts. Leptin receptors are highly expressed in areas of the hypothalamus that are known to be important in regulating body weight, as well as in T lymphocytes and vascular endothelial cells.

### Amino Acid Sequence:

```
MVPIQKVQDD TKTLIKTIVT RINDISHTQS VSSKQKVTGL  
DFIPGLHPIL TLSKMDQTLA VYQQILTSMPS SRNVIQISND  
LENLRDLLHV LAFSKSCHLP WASGLETLDL LGGVLEASGY  
STEVVALSRL QGSLQDMLWQ LDLSPGC
```

### References:

- Cherhab FF, Mounzih K, Lu R, Lim ME: Early onset of reproductive function in normal female mice treated with leptin. *Science* 275:88, 1997.
- Clement K, Vaisse C, Lahlou N, et al: A mutation in the human leptin receptor gene causes obesity and pituitary dysfunction. *Nature* 392:398, 1998.
- Considine RV, Sinha MK, Heiman ML etc: Serum immunoreactive-leptin concentrations in normal-weight and obese humans. *New Eng J Med* 334:292, 1996.
- Friedman JM, Halaas JL: Leptin and the regulation of body weight in mammals. *Nature* 395:763, 1998.
- Halaas JL, Gajiwala KS, Maffei M, etc: Weight-reducing effects of the plasma protein encoded by the obese gene. *Science* 269:543, 1995.
- Montague CT, Farooqi IS, Whitehead JP, etc: Congenital leptin deficiency is associated with severe early-onset obesity in humans. *Nature* 387:903, 1997.
- Pelleymounter MA, Cullen MJ, Baker MB, etc: Effects of the obese gene product on body weight regulation in ob/ob mice. *Science* 269:540, 1995.
- Zhang Y, Proenca R, Maffei M, etc: Positional cloning of the mouse obese gene and its human homologue. *Nature* 372:425, 1994.

**For research use only, not for use in humans.**