

Product Information

Leptin, human

Recombinant, expressed in *E. coli*, lyophilized powder

L4146

Product Description

Synonyms: Obesity factor, Obese protein, OB

Leptin is a 16 kDa non-glycosylated peptide that was originally hypothesized to be a "satiety factor". Leptin has been shown to be intimately involved in the regulation of energy homeostasis,¹⁻³ as well as in the neuroendocrine and reproductive systems.² The amino acid sequence of leptin is highly conserved among vertebrates.¹ Leptin contains 146 amino acids in its circulating form, following removal of a 21-amino acid amino-terminal secretory signal sequence prior to its secretion into the blood stream.⁴

Leptin is expressed primarily in adipose tissue and, until recently, was believed to be produced solely by adipocytes. However, additional studies have shown that other cell types, including placental trophoblasts and amnion cells, produce leptin.³⁻⁴ Leptin is believed to play a role in normal pregnancy development.⁵

Several theses⁶ and dissertations⁷⁻¹⁰ have cited use of product L4146 in their research.

Product

This product is lyophilized from a 0.2 µm-filtered solution with 0.0045 mM NaHCO₃.

Purity: ≥ 97% (SDS-PAGE)

The biological activity of this recombinant human leptin product is measured by its ability to induce proliferation of leptin-dependent, human OB-R-transfected murine BAF3 cells.

EC₅₀: ≤ 3.0 ng/mL

The EC₅₀ is defined as the effective concentration of leptin that elicits a 50% increase in cell growth in a cell-based bioassay.

Endotoxin level: ≤ 1.0 EU/µg (LAL)

Storage/Stability

The product is estimated to be stable for at least 2 years as supplied. After reconstitution, it is recommended to store the protein in working aliquots at -20 °C.

Preparation Instructions

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile distilled, deionized water to a final concentration of 0.1 mg/mL to 1 mg/mL.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

References

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