

Rev03  
 Update: Dec,14,2021

## DATASHEET

# Leptin, Human

Cat. No.: Z02962

## Product Introduction

Species	Human
Protein Construction	Leptin (Val22-Cys167) Accession # P41159
Purity	> 97% as analyzed by SDS-PAGE > 97% as analyzed by HPLC
Endotoxin Level	< 1 EU/μg of protein by LAL method
Biological Activity	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by a chemotaxis bioassay using human Leptin R transfected BaF3 murine proB cells is less than 2.0 ng/ml, corresponding to a specific activity of > 5.0 × 10 <sup>5</sup> IU/mg.
Expression System	E. coli
Theoretical Molecular Weight	16 kDa
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS, pH 7.4.
Reconstitution	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml.
Storage & Stability	Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

## Background

**Target Background :** Leptin is a cytokine belonging to the Interleukin 6 family, and has a four-helix bundle structure. Leptin is encoded by the ob gene, and produced and secreted by white adipose tissue. The receptors of Leptin are Type I cytokine receptors, which exist in two different forms: a short form expressed in multiple tissues, and a long form expressed exclusively in the central nervous system (CNS). Upon binding to Leptin, the receptors activate the JAK/STAT3 pathway and PI3K, and stimulate transcriptional programs that regulate feeding behavior, metabolic rate, endocrine axes, and glucose fluxes. The deficiency of Leptin in human and mouse causes morbid obesity, diabetes, and neuroendocrine anomalies. Leptin also has effects on reproduction and immunity. In summary, Leptin is a pivotal cytokine controlling energy balance, and as such has profound effects on human health.

**Synonyms :** Obesity protein; OB; LEP; LEPD; OBS; leptin

**For laboratory research use only. Direct human use, including taking orally and injection and clinical use are forbidden.**