

Leptin Protein, Human, Recombinant V2

General Information

Synonyms:	leptin;OBS;LEPD;OB
Protein Construction:	Val22-Cys167
Species:	Human
Expression Host:	E. coli
Accession:	P41159
Molecular Weight:	16 kDa (Predicted)

QC Testing

Biological Activity:	Fully biologically active when compared to standard. The ED 50 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 $> 5.0 \times 10^5$ IU/mg.
Purity:	$> 97\%$ as determined by SDS-PAGE; $> 97\%$ as determined by HPLC
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 μ m filtered solution in PBS, pH 7.4.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water or aqueous buffer containing 0.1 % BSA. The product concentration should not be less than 100 μ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C . For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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