LEP
Recombinant Human Leptin

Catalog No.	CRH417A	**Quantity:**	500 µg
	CRH417C		1.0 mg
	CRH417D		2.0 mg

Alternate Names: Leptin, Obese protein, Obesity factor

Description: Leptin is one of the most important hormones secreted by adipocytes, as an adipokine that modulates multiple functions including energy homeostasis, thermoregulation, bone metabolism, endocrine and pro-inflammatory immune responses. The circulating leptin levels serve as a gauge of energy stores, thereby directing the regulation of energy homeostasis, neuroendocrine function, and metabolism. Recent studies suggest that leptin is physiologically more important as an indicator of energy deficiency, rather than energy excess, and may mediate adaptation by driving increased food intake and directing neuroendocrine function to converse energy, such as inducing hypothalamic hypogonadism to prevent fertilization. One of these functions is the connection between nutritional status and immune competence. The adipocyte-derived hormone Leptin has been shown to regulate the immune response, innate and adaptive response, both in normal and pathological conditions. Thus, Leptin is a mediator of the inflammatory response. Leptin has a dual effect on bone, acting by two independent mechanisms. As a signal molecule with growth factor characteristics, leptin is able to stimulate osteoblastic cells and to inhibit osteoclast formation and activity, thus promoting osteogenesis.

UniProt ID: P41159

Accession Number: NP_000221.1

Protein Construction: A DNA sequence encoding the mature form of human Leptin (Val 22-Cys 167) was expressed, with an additional Met.

Source: E. coli

Molecular Weight: The recombinant human leptin consists of 147 amino acids and predicts a molecular mass of 16 kDa. The apparent molecular mass of rhLEP is approximately 13 kDa in SDS-PAGE under reducing conditions.

Formulation: Lyophilized from sterile PBS, pH 7.4
Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.

Purity: > 98 % as determined by SDS-PAGE.

Biological Activity: Measured by its binding ability in a functional ELISA .
1. Immobilized human Leptin at 1.25 µg/ml (100 µl/well) can bind human Leptin receptor Fc chimera with a linear range of 0.032-4.0 µg/ml .
2. Immobilized human Leptin at 5 µg/ml (100 µl/well) can bind human Leptin receptor his with a linear range of 0.032-4.0 µg/ml.

Cell Sciences®
65 Parker Street
Unit 11
Newburyport, MA 01950

Toll Free: 888-769-1246
Phone: 978-572-1070
Fax: 978-992-0298

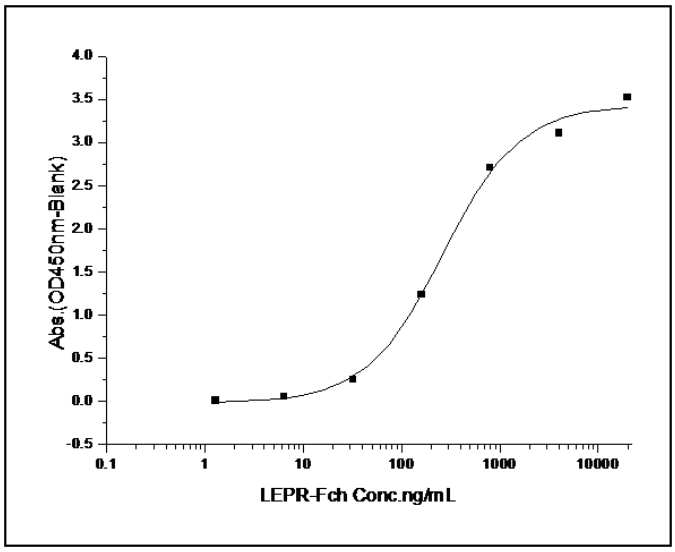
E-mail: info@cellsciences.com
Website: www.cellsciences.com

Predicted N-terminal: Met

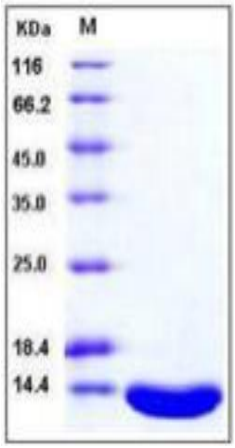
Reconstitution: **Centrifuge vial prior to opening.** Add sterile distilled water to a concentration of 0.1 mg/mL and gently pipette the solution up and down the sides of the vial. **DO NOT VORTEX**. Allow several minutes for complete reconstitution.

Storage & Stability: Stable for up to 1 year from date of receipt at -20°C to -80°C
After reconstitution, store working aliquots at -20°C to -80°C.
Avoid repeated freeze-thaw cycles.

In a functional ELISA, immobilized human Leptin at 10 µg/ml (100 µl/well) can bind human Leptin receptor his with a linear range of 0.032-4.0 µg/ml.



SDS-PAGE



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