

# Recombinant Human LEPR Protein(His Tag)

Catalog Number: PDMH100253

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

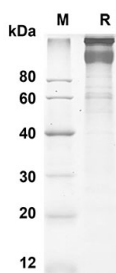
## Description

<b>Species</b>	Human
<b>Source</b>	Mammalian-derived Human LEPR protein Phe22-Asp839, with an C-terminal His
<b>Mol_Mass</b>	89.8 kDa
<b>Accession</b>	P48357-1
<b>Bio-activity</b>	Not validated for activity

## Properties

<b>Purity</b>	> 90% as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU/mg of the protein as determined by the LAL method
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80 °C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
<b>Reconstitution</b>	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

## Data



SDS-PAGE analysis of Human LEPR proteins, 2 µg/lane of Recombinant Human LEPR proteins was resolved with an SDS-PAGE under reducing conditions, showing bands at 89.8 KD

## Background

### For Research Use Only

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Leptin Receptor or CD295 belongs to the gp130 family of cytokine receptors that are known to stimulate gene transcription via activation of cytosolic STAT proteins. This protein is a receptor for leptin (an adipocyte-specific hormone that regulates body weight) and is involved in the regulation of fat metabolism, as well as in a novel hematopoietic pathway that is required for normal lymphopoiesis. Leptin Receptor/CD295 is transmembrane catalytic receptors found on NPY/AgRP and alpha-MSH/CART neurons in hypothalamic nuclei. Leptin receptors (Ob-Rs) are coded for by one human gene that produces six different isoforms, Ob-Ra-Ob-Rf. Ob-Rs exist as constitutive dimers at physiological expression levels. Only the Ob-Rb isoform can transduce intracellular signals and does so through activation of the JAK2/STAT3, PI 3-K, and MAPK signaling cascades. Activation of Ob-Rs mediates transcriptional regulation of the hypothalamic melanocortin pathway and downregulates endocannabinoid expression. Leptin acts via leptin receptors. Leptin resistance has been proposed as a pathophysiological mechanism of obesity. In obese individuals, Ob-Ra (which is involved in the active transport of leptin across the blood-brain barrier) expression is downregulated and the individual may be unresponsive to leptin signals. Ob-R antagonists are of great interest in the development of pharmacological treatments for obesity. Mutations in the Leptin Receptor/CD295 have been associated with an obesity and pituitary dysfunction.

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