



Leptin Receptor Human, Mouse Monoclonal Antibody, Clone: LPR-02

Product Data Sheet

Source of Antigen: NSO mouse myeloma cell line
Host: Mouse
Isotype: IgG1

Cat. No.:
RD182002110-02 (0.1 mg)

Research topic

Animal studies, Energy metabolism and body weight regulation, Reproduction

Preparation

The antibody is a mouse monoclonal antibody against recombinant Human Leptin Receptor. The Human Leptin Receptor is a recombinant protein produced in mouse myeloma cell line. DNA sequence including the extracellular domain of Leptin Receptor (amino acid residues 1-839) fused to the Fc region of human IgG (with HIEGR added at the amino terminus and 6 histidine residues added at the carboxy terminus).

Species Reactivity

Human
Does not react with mouse.
Not yet tested in other species.

Purification Method

Affinity chromatography on a column with immobilized protein G.

Antibody Content

0.1 mg (determined by BCA method, BSA was used as a standard)

Formulation

The antibody is lyophilized in 0.05 M phosphate buffer, 0.1 M NaCl, pH 7.2. **AZIDE FREE.**

Reconstitution

Add 0.1 ml of deionized water and let the lyophilized pellet dissolve completely. Slight turbidity may occur after reconstitution, which does not affect activity of the antibody. In this case clarify the solution by centrifugation.

Shipping

At ambient temperature. Upon receipt, store the product at the temperature recommended below.

Storage/Stability

The lyophilized antibody remains stable and fully active until the expiry date when stored at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles and store frozen at -80°C. Reconstituted antibody can be stored at 4°C for a limited period of time; it does not show decline in activity after one week at 4°C.

Expiration

See vial label.

Lot Number

See vial label.

Quality Control Test

Indirect ELISA - to determine titer of the antibody
SDS PAGE - to determine purity of the antibody

Applications

ELISA, Immunohistochemistry, Western blotting

Introduction to the Molecule

Leptin receptor (OB R) was identified as a leptin binding protein (Leptin, the product of the *ob* gene, is a single chain 16 kDa protein consisting of 146 amino acid residues.) OB R was found to be a member of the class I cytokine receptor family with a large extracellular domain comprising 816 amino acid residues. Leptin receptor exists in multiple forms with a common extracellular domain and a variable length cytoplasmic portion. Alternate splicing from a single gene derives the six isoforms of the Leptin receptor. The soluble form of the Leptin receptor, OB R contains no intracellular motifs or transmembrane residues, thus it consists entirely of the extracellular ligand binding domain of the receptor. Long forms of OB-R transcripts were reported to be expressed predominantly in regions of the hypothalamus which provides evidence that Leptin receptor is important in body weight regulation. Expression of short forms of OB-R transcripts have been found in multiple tissues, including the choroid plexus, lung, kidney, and primitive hematopoietic cell populations. Leptin receptor may act as a negative regulator of Leptin activity and it may maintain a pool of available bioactive Leptin by binding and delaying its clearance from circulation. Soluble Leptin receptor levels are indirectly proportional to adiposity and are increased in females versus males. Leptin receptor levels are highest in infants, decrease into adolescence, and remain relatively stable throughout adulthood. Soluble Leptin receptor is also found upregulated in patients with chronic heart failure, end-stage renal disease and anorexia.

References to this Product

- Verhaeghe J, van Bree R, Van Herck E . *Maternal body size and birth weight: can insulin or adipokines do better?*. [Metabolism](#) . Mar;55(3):339-44 (2006)

Note

This product is for research use only.

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