

Recombinant Rat LEPR Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52490

Size: 10ug, 100ug

Protein Name: Leptin receptor (LEP-R) (OB receptor) (OB-R) (CD antigen CD295)

Synonym: Lepr, Fa, Obr

UniProt ID: Q62959

UniProt Link: www.uniprot.org/uniprotkb/Q62959/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1162 AA

Molecular Weight: 131 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MTCQKFYVLLHWEFLYVITALNLAYPTSPWRFKLCAPPSTTDDSFLSPAGVPNNTSSLKGASEAL
VEAKFNSTGIYVSELSKTIHFHCCFGNEQQGQNCSTALGTGTEGKTLASVVKPLVFRQLGVNWDIECWMK
GDLTLFICHMEPLLKNPDKNYDSKVHLLYDLPEVIDDLPLPLKDSFQTVQCNCVRECECHVPVPRA
KVNYALLMYLEITSAGVSFQSPLMSLQPMMLVVKPDPLGLRMEVTDDGNLKWSDSQTKAPFPLQYQ
VKYLENSTIVREAAEIVSDTSLLVDSVLPGSSYEVQVRSKRLDGSVWSDWSLPQLFTTQDVMYFPP
KILTSVGSNASFCCYKNNQTISSKQIVWWMNLAEKIPETQYNTVSDHISKVTFSNLKATRPRGKFTY
DAVYCCNEQACHHRYAELYVIDVNINISCETDGYLTKMTCRWSPSTIQSLVGSTVQLRYHRRSLYCP
DNPSIRPTSELKNCVLQTDGFYECVFQPIFLLSGYTMWIRINHSLGSLDSPPTCVLPDSVVKPLPPSN
VKAETINTGLLKVSWEKPVFPENNLQFQIRYGLNGKEIQWKTHEVFDKSKSASLPVSDLCVYVVQ
VRCRRDLGLGYWSNWSSPAYTLVMDVKVPMRGPEFWRIMDGDITKKERNVTLLWKPLMKNDLCS
VRRYVVKHRTAHNGTWSQDVGNQTNLTFLWAESAHTVTVLAINSIGASLVNFNLTFSWPMSKVNVA
QSLSAYPLSSSCVILSWTLSPNDYSLLYVIEWKLNDDDGKWLRIPSNVNKYYIHDNFIPIEKYQFS
LYPVFMEGVGKPKIINGFTKDDIAKQNDAGLYVIVPIIISSCVLLLGTLLISHQRMKKLFWDDVPNPKN
CSWAQGLNFQKPETFEHLFTKHAESVIFGPLLEPEPVSEEISVDTAWKNKDEMVAAMVSLLLTTP
DSTRGSICISDQCNSANFSGAQSTQGTCEDECQSQPSVKYATLVSNVKTVEEDQGAIHSSVSQCI
ARKHSPLRQSFSSNSWEIEAQAFFLLSDHPPNVISPQLSFSGLDLLELEGNFPEENHGEKSVYYLG
VSSGNKRENDMLLTDEAGVLCPPFAHCLFSDIRILQESCSHFVENNLNLGTSGKNFVPYMPQFQSCS
THSHKIIENKMCDLTV

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Leptin receptor (LEP-R) (OB receptor) (OB-R) (CD antigen CD295) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Receptor for hormone LEP/leptin (Probable). On ligand binding, mediates LEP central and peripheral effects through the activation of different signaling pathways such as JAK2/STAT3 and MAPK cascade/FOS. In the hypothalamus, LEP acts as an appetite-regulating factor that induces a decrease in food intake and an increase in energy consumption by inducing anorexinogenic factors and suppressing orexigenic neuropeptides, also regulates bone mass and secretion of hypothalamo-pituitary-adrenal hormones (PubMed:8690163). In the periphery, increases basal metabolism, influences reproductive function, regulates pancreatic beta-cell function and insulin secretion, is pro-angiogenic and affects innate and adaptive immunity (By similarity). Control of energy homeostasis and melanocortin production (stimulation of POMC and full repression of AgRP transcription) is mediated by STAT3 signaling, whereas distinct signals regulate NPY and the control of fertility, growth and glucose homeostasis. Involved in the regulation of counter-regulatory response to hypoglycemia by inhibiting neurons of the parabrachial nucleus. Has a specific effect on T lymphocyte responses, differentially regulating the proliferation of naive and memory T-cells. Leptin increases Th1 and suppresses Th2 cytokine production (By similarity).; [Isoform A]: May transport LEP across the blood-brain barrier. Binds LEP and mediates LEP endocytosis (PubMed:10698121). Does not induce phosphorylation of and activate STAT3 (By similarity).; [Isoform E]: Antagonizes Isoform A and isoform B-mediated LEP binding and endocytosis.

Subcellular Localization: Cell membrane ; Single-pass type I membrane protein . Basolateral cell membrane .; [Isoform E]: Secreted .

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.