

Recombinant Mouse LEPR Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51436

Size: 10ug, 100ug

Protein Name: Leptin receptor (LEP-R) (B219) (OB receptor) (OB-R) (CD antigen CD295)

Synonym: Lepr, Db, Obr

UniProt ID: P48356

UniProt Link: www.uniprot.org/uniprotkb/P48356/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1162 AA

Molecular Weight: 131 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MMCQKFYVLLHWEFLYVIAALNLAYPISPWKFLFCGPPNTTDDSFLSPAGAPNNASALKGASEAIV
EAKFNSSGIYVPELSKTVFHCCFGNEQQGQNCSTLDNTEGKTLASVVKASVFRQLGVNWDIECWMK
GDLTLFICHMEPLPKNPFKNYDSKVHLLYDLPEVIDDSPLPPLKDSFQTVQCNCSLRGCECHVPVPR
AKLNYALLMYLEITSAGVSFQSPLMSLQPMMLVVKPDPLGLHMEVTDDGNLKISWDSQTMAPPFLQY
QVKYLENSTIVREAAEIVSATSLLVDSVLPGSSYEYQVRSKRLDGGVWSDWSSPQVFTTQDVVYFP
PKILTSVGSNASFHCIYKNENQIISSKQIVWRNLAEKIPEIQYSIVSDRVSKVTFSNLKATRPRGKFTY
DAVYCCNEQACHHRYAELYVIDVNINISCETDGYLTKMTCRWSPSTIQSLVGSTVQLRYHRRSLYCP
DPSIHPTSEPKNCVLQRDGFYECVFQPIFLLSGYTMWIRINHSLGSLDSPPTCVLPDSVVKPLPPSN
VKAETVNTGLLKVSWEKPVFPENNLQFQIRYGLSGKEIQWKTHEVFDKSKSASLLVSDLCVYVV
QVRCRRLDGLGYWSNWSSPAYTLVMDVKVPMRGPEFWRKMDGDVTKKERNVTLLWKPLTKNDL
CSVRRYVVKHRTAHNGTWSEDEVGNRTNLTLFWTEPAHTVTVLAVNSLGASLVNFNLTFSWPMKSV
SAVESLSAYPLSSSCVILSWTLSPDDYSLLYLVIEWKILNEDDGMKWLRIPSNVKKFYIHDNFIPIEKYQ
FSLYPVFMEGVGKPKIINGFTKDAIDKQQNDAGLYVIVPIIISSCVLLLGTLLISHQRMKKLFWDDVPNP
KNCSWAQGLNFQKPETFEHLFTKHAESVIFGPLLLEPEPISEEISVDTAWKNKDEMMPAAMVSLLLTT
PDPESSSICISDQCNSANFSGSQSTQVTCEDECQRQPSVKYATLVSNDKLVETDEEQGFIHSPVSNC
ISSNHSPLRQSFSSSSWETAQTFFLLSDQQPTMISPQLSFSGLDELLELEGSFPEENHREKSVCYL
GVTSVNRRESGVLLTGEAGILCTFPAQCLFSDIRILQERCSEHFVENNLSLGTSGENFVPYMPQFQTC
STHSHKIMENKMCDLTV

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) (B219) (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) (PubMed:11861497). On ligand binding, mediates LEP central and peripheral effects through the activation of different signaling pathways such as JAK2/STAT3 and MAPK cascade/FOS (PubMed:10799542, PubMed:11861497, PubMed:11923481, PubMed:25383904). 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 anorexigenic factors and suppressing orexigenic neuropeptides, also regulates bone mass and secretion of hypothalamo-pituitary-adrenal hormones (PubMed:10660043, PubMed:12594516). 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 (PubMed:11923481, PubMed:25383904). 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 (PubMed:12594516). Involved in the regulation of counter-regulatory response to hypoglycemia by inhibiting neurons of the parabrachial nucleus (PubMed:25383904). 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 (PubMed:9732873).; [Isoform A]: May transport LEP across the blood-brain barrier. Binds LEP and mediates LEP endocytosis (PubMed:17620316, PubMed:20223942). Does not induce phosphorylation of and activate STAT3 (PubMed:11923481, PubMed:20223942).; [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.