

Recombinant Mouse NMUR1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51175

Size: 10ug, 100ug

Protein Name: Neuromedin-U receptor 1 (NMU-R1) (G protein-coupled receptor 66) (G protein-coupled receptor FM-3) (Neuromedin-U-1 receptor) (NmU-1R)

Synonym: Nmur1, Gpr66

UniProt ID: O55040

UniProt Link: www.uniprot.org/uniprotkb/O55040/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 428 AA

Molecular Weight: 48 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MTTPCLNCSIFPGALSPNASRSPLVCNISEFKWPYQPEDLNLTDEALRLKYLGPQQMKQFVPICVTYL
LIFVVGTLGNGLTCTVILRNKTMRTPTNFYLFSLAVSDMLVLLVGLPLELYEMQQNYPFQLGASACYF
RILLLETVCLASVLNVTALSVRYVAVVRPLQAKSVMTRAHVRRMVGAIWVLATLFLPNTSLHGLSQ
LTVPCRGPVPDSAICSLVGPMDFYKLVVLTALLFFCLPMVTISVLYLLIGLRLRRERMMLLQVEVKGRK
TAATQETSHRRIQLQDRGRRQVTKMLFALVVVFGICWAPFHADRMWSLVYGHSTEGHLAYQCVHI
ASGIFFYLGSAANPVLVSLMSTRFRETFLQALGLGTQCCHRRQPYHGSHNHIRLTTGSTLCDVGHRN
SRDEPLAVNEDPGCQQETDPS

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 Neuromedin-U receptor 1 (NMU-R1) (G protein-coupled receptor 66) (G protein-coupled receptor FM-3) (Neuromedin-U-1 receptor) (NmU-1R) 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: G protein-coupled receptor for the neuropeptides neuromedin-U (NMU) and neuromedin-S (NMS) (By similarity). Functionally, is involved in pleiotropic roles, including regulation of feeding, energy balance, blood pressure and smooth muscle contraction (By similarity). Additionally modulates hormone release and inflammatory responses in a tissue- and receptor-dependent manner (PubMed:15585845, PubMed:33857254). Mechanistically, upon ligand binding, couples to Gα proteins, namely GNAQ/Gaq or GNA11/Ga11 and GNAI1/Gai subunits. GNAQ/Gaq or GNA11/Ga11 coupling activates a phospholipase C (PLC), hydrolyzing PIP2 (phosphatidylinositol 4,5-bisphosphate) into DAG (diacylglycerol) and IP3 (inositol trisphosphate) and mobilizing intracellular calcium via IP3 receptors on the endoplasmic reticulum. Also couples to GNAI1/Gai to inhibit forskolin-stimulated cAMP accumulation (By similarity). In pancreatic beta cells, through neuromedin U-25, regulates insulin secretion where it coupled to GNAI2 and GNAO1, resulting in reduced intracellular Ca²⁺ influx and cAMP levels (PubMed:33857254). Through neuromedin U-25 in Th2-type T cells, enhances type 2 cytokine secretion and modulates inflammatory responses via activation of PLC-calcineurin-MEK and PI3K signaling pathways (PubMed:15585845).

Subcellular Localization: Cell membrane ; Multi-pass membrane protein .

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.