

Recombinant Mouse NMU Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51955

Size: 10ug, 100ug

Protein Name: Neuromedin-U (Prepro-NMU) [Cleaved into: Neuromedin precursor-related peptide 36 (NURP36); Neuromedin precursor-related peptide 33 (NURP33); Neuromedin-U-23 (NmU-23)]

Synonym: Nmu

UniProt ID: Q9QXK8

UniProt Link: www.uniprot.org/uniprotkb/Q9QXK8/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 174 AA

Molecular Weight: 19 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MSRAAGHRPGLSAGQLAAATASPLLSLLLLLACCADACKGVPISPQRLQPEQELQLWNEIHEACASF
LSIDSRPQASVALRELCRIVMEISQKPQEQSEKDNTKRFLFHYSKTQKLGNSNVVSSVHPLLQLVPQ
LHERRMKRFKAQYQSPSVGQSKGYFLFRPRNGKRSTSI

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 (Prepro-NMU) [Cleaved into: Neuromedin precursor-related peptide 36 (NURP36); Neuromedin precursor-related peptide 33 (NURP33); Neuromedin-U-23 (NmU-23)] 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: [Neuromedin-U-23]: Multifunctional neuropeptide that acts via two G protein-coupled receptors, NMUR1 and NMUR2 (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:33857254). Mechanistically, binding to NMUR1 or NMUR2 results in coupling of receptors to Gα proteins, namely GNAQ/Gaq or GNA11/Ga11 and GNAI1/Gai subunits. GNAQ/Gaq or GNA11/Ga11 coupling leads to the activation of a phospholipase C (PLC), which hydrolyzes PIP2 (phosphatidylinositol 4,5-bisphosphate) into DAG (diacylglycerol) and IP3 (inositol trisphosphate), and subsequent intracellular calcium mobilization via IP3 receptors on the endoplasmic reticulum. GNAI1/Gai coupling inhibits forskolin-stimulated cAMP accumulation (By similarity). In pancreatic beta cells, regulates insulin secretion through NMUR1 coupled to GNAI2 and GNAO1, resulting in reduced intracellular Ca²⁺ influx and cAMP levels (PubMed:33857254). Through NMUR1 in Th2-type T cells, enhances type 2 cytokine secretion and modulates inflammatory responses via activation of PLC-calcineurin-MEK and PI3K signaling pathways (By similarity).; [Neuromedin precursor-related peptide 33]: Does not function as a ligand for either NMUR1 or NMUR2. Indirectly induces prolactin release although its potency is much lower than that of neuromedin precursor-related peptide 36.; [Neuromedin precursor-related peptide 36]: Does not function as a ligand for either NMUR1 or NMUR2. Indirectly induces prolactin release from lactotroph cells in the pituitary gland, probably via the hypothalamic dopaminergic system.

Subcellular Localization: [Neuromedin-U-23]: 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.