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Anti-NMU Picoband Antibody

Catalog # ABO12968

Product Information

Application	WB
Primary Accession	P48645
Host	Rabbit
Reactivity	Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for NMU detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	10874
Other Names	Neuromedin-U, Neuromedin-U-25, NmU-25, NMU
Calculated MW	19741
Application Details	Western blot, 0.1-0.5 □g/ml
Subcellular Localization	Secreted.
Tissue Specificity	Expressed throughout the enteric nervous system with highest levels being found in the jejunum.
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na_2HPO_4, 0.05mg NaN_3.
Immunogen	A synthetic peptide corresponding to a sequence of human NMU (FRVDEEFQSPFASQSRGYFLFRPRN).
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C; for one year. After r˚Constitution, at 4˚C; for one month. It˚Can also be aliquotted and stored frozen at -20˚C; for a longer time. Avoid repeated freezing and thawing.

Protein Information

Name	NMU (HGNC:7859)

Function	[Neuromedin-U-25]: Multifunctional neuropeptide that acts via two G protein-coupled receptors, NMUR1 and NMUR2 (PubMed:15331768, PubMed:35440625). 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, binding to NMUR1 or NMUR2 results in coupling of receptors to Galpha proteins, namely GNAQ/Gaq or GNA11/Ga11 and GNAI1/Gai subunits (PubMed:15331768). 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 (PubMed:15331768). GNAI1/Gai coupling inhibits forskolin-stimulated cAMP accumulation (PubMed:15331768). 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 (PubMed:15585845).
Cellular Location	[Neuromedin-U-25]: Secreted {ECO:0000250|UniProtKB:P12760}
Tissue Location	Expressed throughout the enteric nervous system with highest levels being found in the jejunum. Expressed in gastrointestinal tract (PubMed:7619205).

Background

Neuromedin U (NMU) is a neuropeptide with potent activity on smooth muscle, which was isolated first from porcine spinal cord and later from other species. It is a member of the neuromedin family of neuropeptides. The encoded protein is a precursor that is proteolytically processed to generate a biologically active neuropeptide that plays a role in pain, stress, immune-mediated inflammatory diseases and feeding regulation. Increased expression of this gene was observed in renal, pancreatic and lung cancers. Alternative splicing results in multiple transcript variants encoding different isoforms. Some of these isoforms may undergo similar processing to generate the mature peptide.

Images

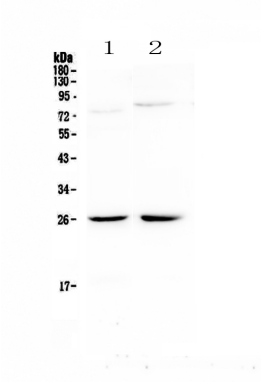


Figure 1. Western blot analysis of NMU using anti-NMU antibody (ABO12968).

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