ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Neuromedin U (NmU) Antibodies

□ **Cat.** NMU41-S	Rabbit Anti-Human/rat/Mouse NMU antiserum # 1	**SIZE**: 100 ul
□ **Cat.** NMU41-A	Rabbit Anti-Human/rat/Mouse NMU IgG # 1 (aff pure)	**SIZE**: 100 ug
□ **Cat.** NMU41-P	Human/Mouse/Rat NMU Control/blocking peptide # 1	**SIZE**: 100 ug

The neuromedins (**Nm**) are a family of bioactive peptides best known for their roles in smooth muscle contraction. Nm family of bioactive peptides include: Bombesin-like (NmB, NmC), kassinin-like (NmL and NmK or neurokinins A and B), neurotensin-like (NmN), and neuromedin U (NmU; for its ability to stimulate *u*terine muscle contraction). NmU-like immunoreactivity has been detected in mammalian brain, GI-tracts of various species, and in the thyroid and endocrine cells of pituitary glands. Besides its roles in smooth muscle contraction (human ileum, urinary bladder, rat stomach etc), NmU has also been implicated in hypertension, blood flow in intestine, and neurotransmission. Recently two structurally related, orphan G-protein coupled receptors, termed **NMUR1 (GPCR66/FM-3/SNORF62**) and **NMUR2 (TGR-1/FM-4/SNORF72),** have been identified as cognate receptors of NmU.

NmU is synthesized from a large precursor peptide and cleaved into 25-aa (human NmU, 25 aa; rat **NmU, 23 aa**; porcine **NmU, 25 aa**) and 8-aa (**Nmu-8**; 18-25) biologically active peptides. NMU peptides from various species share the greatest homology in the their C-terminal regions, which is also critical in biological activity. NMU is present in nerves throughout the GI-tracts, corticotrophs within the anterior and lobe of rat and human pituitary glands, parafollicular cells of in rat thyroid gland, and in various regions of brain (spinal cord, hypothalamus, substantia nigra, hippocampus, amygdala). Low levels of NmU are also found in human adipose tissue, lymphocytes, and spleen.

Source of Antigen and Antibodies

Antigen	Three peptides designated as **NMUR51-P** from **rat, NMU61-P** from **human**, and **NMU71-P** from **mouse NmU** (1) within N-terminal domain were used for antibody production. The three peptides (**designated at NMU41-P, control peptides**) were coupled to KLH
Ab Host/type	Rabbit, Polyclonal antiserum # **NMU41**-S and IgG, purified over antigen-agarose (Cat # **NMU41**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
□ 100ul □ □ solution □ lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
□ 100 ug/100ul □ solution □ lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
□ 100 ug/100 ul □ solution □ lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:100K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: Not tested. we recommend the use of affinity purified antibody at 2-20 ug/ml in formaldehyde fixed tissue.

Specificity & Cross-reactivity

The three individual control immunogenic NmU peptides (NMU51-P, NMU61-P, and NMU71-P) do not share significant sequence homology with each other. Since the antibodies are made to a mixture of NmU peptides, the antibodies have reactivity with mouse, rat, and human NmU as confirmed by ELISA using full length NmU from the respective species. Antibody cross-reactivity in various other species has not been studied. Control peptides, because of its small size (2-3 kDa), is not recommended for Western. It should be used in ELISA or antibody blocking experiments to demonstrate antibody specificity. **Full length rat 23-aa NmU** (Cat # NMU61-P), **human 25-aa** (Cat # NMU62-P), and **mouse 23-aa NmU** (Cat # NMU72-P) are also available to study antibody reactivity by ELISA.

General References: (1) Lo G et al (1992) Mol. Endocrinol. 6, 1538-1544; Minamino N et al (1988) BBRC 156, 355-360; Conlon JM et al (1988) J. Neurochem. 51, 988-991; Austin C et al (1994) J. Mol. Endocrinol. 14, 157; Raddatz R et al (2000) J. Biol. Chem. 275, 32452; Howard AD et al (2000) Nature 406, 70; Fuji R et al (2000) JBC 275, 21068.

*This product is for in vitro research use only.

Some New Antibodies from ADI…

- Neuromedin U, NMU and NMUR1-R2

NMUR41-S-A-P 71212A

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