ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Neuromedin U (NmU) Antibodies

Cat. NMU51-A	Rabbit Anti-Rat NMU ab # 2 (aff. pure)	**SIZE**: 100 ug
Cat. NMU51-P	Rat NMU Control/blocking peptide # 2	**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 conjugated to KLH
Ab Host/type	Rabbit, Polyclonal IgG, purified over antigen-agarose (Cat # NMU51-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) 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 (1-10 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 14-aa mouse NMU51-P control peptide shares no significant sequence homology with human or rat or NmU from other species. Therefore, affinity pure mouse NMU51-A antibody has no appreciable crossreactivity with human or rat NmU. We suggest the use of Cat # NMU61-A for human and Cat # NMU71-A for mouse NmU. Antibody cross-reactivity in various other species has not been studied. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol see detailed protocol at the web site).

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.

Neuromedin U, NMU/NMUR1/2, Neurotensin receptors, Ghrelin receptors, Orexin receptors, Leptin receptors

Western Blot recycling kit (Use the same blot to probe with multiple antibodies) **recycle blot in 5-10 min.**

NMU51-S-A-P 71212A

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