ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

NMU Receptor 2 (NMUR2) Antibodies

Cat. NMUR22-S	Rabbit Anti-Rat NMUR2 antiserum # 2	SIZE: 100 ul
Cat. NMUR22-A	Rabbit Anti-Rat NMUR2 IgG # 2 (aff pure)	SIZE: 100 ug
Cat. NMUR22-P	Rat NMUR2 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). 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 receptors display a typical 7 TM domains with extracellular N-terminus and intracellular C-terminus.

NMUR1 is found at low levels in uterus, where NmU has robust contractile activity and strong specific NmU binding sites have been found in uterus suggesting the presence of another NmU receptor. A novel GPCR, termed **NMUR2** (FM-4/TGR-1/SNORF72) has been identified as the 2nd receptor for NmU. NMUR2 (rat 395 aa; human 415 aa; chromosome 5q31.1; ~78% homology) has approx 50% homology with NMUR1. NMUR2 also couples to Gq in the signal transduction pathway. Unlike NMUR1, NMUR2 was primarily expressed in the rat uterus, and brain. Moderate to low level of expression was found in rat lung, ovary, and GI-tract. In human, NMUR2 has highest expression in testing and brain. Moderate expression was also detected in kidney, lung, and thyroid.

FUNCTION: Receptor for the neuromedin-U and neuromedin-S neuropeptides (By similarity).
SUBCELLULAR LOCATION: Cell membrane; Multi-pass membrane protein.
SIMILARITY: Belongs to the G-protein coupled receptor 1 family [view classification].
Protein name Neuromedin-U receptor 2
Synonym NMU-R2
Gene name Name: Nmur2

Source of Antigen and Antibodies

Antigen	16-aa peptide from **rat NMUR2 (1)**; (protein accession #Q8BZ39 , refs 1) **Designation (# NMUR22-P, control/blocking peptide**) conjugated to KLH;Epitope location ~C-terminus, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**NMUR22**-S) and IgG, purified over antigen-agarose (Cat # **NMUR22**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 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 in Buffer: 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 20-aa Rat NMUR22-P sequence is 78% conserved in mouse and only 40% in human NMUR2. No significant sequence homology exist with NMUR1 or Ghrelin receptors or other proteins. Antibody cross-reactivity in various 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 at: www.4adi.com\data\abblock.html).

General References: (1) Howard AD et al (2000) Nature 406, 70; Fuji R et al (2000) JBC 275, 21068; Raddatz R et al (2000) JBC 275, 32452; Shan L et al (2000) JBC 275, 39482; Hosoya M et al (2000) JBC 275, 29528; Szekeres PG (2000) JBC 275, 20247.

*This product is for in vitro research use only.

Some New Antibodies from ADI…

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

NMUR22-S-A-P 50329A

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