ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

NMU Receptor 1 (NMUR1) Antibodies

Cat. NMUR12-S	Rabbit Anti-Human NMUR1 antiserum # 2	**SIZE**: 100 ul
Cat. NMUR12-A	Rabbit Anti-Human NMUR1 IgG # 2(aff pure)	**SIZE**: 100 ug
Cat. NMUR12-P	Human NMUR1 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.

The human **NMUR1** (rat 402 aa; mouse, 405 aa; human 403 aa, chromosome 2; 70-80% interspecies homology) orphan GPCR66 was originally identified by similarity to mouse orthologue FM-3. NMUR1 has moderate sequence homology with neurotensin (NT), and growth hormone secretagogue (GHS, Ghrelin) receptors. NMUR1 is specifically activated by the three peptides (NmU-25, NmU23, and NmU-8) with more or less the same potency. Calcium mobilization assay suggests that NMUR1 is coupled to G-protein of the Gq/11 subfamily. It is highly expressed in rat small intestine and lung. In human, highest expression was found in intestine adipose tissue, with moderate levels of expression in the intestine, lymphocytes, stomach, pancreas, bone marrow, and spleen, and low levels in most other tissues including brain.

FUNCTION: Receptor for the neuromedin-U and neuromedin-S neuropeptides.
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 1
Synonyms NMU-R1
G-protein coupled receptor 66
G-protein coupled receptor FM-3
Gene name Name: Nmur1; Synonyms: Gpr66

Source of Antigen and Antibodies

Antigen	20-aa peptide from **human NMUR1 (1)**; (protein accession #Q9JJI5 , refs 1) **Designation (#NMUR12-P, control/blocking peptide**) conjugated to KLH; Epitope location ~C-terminus, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (**#NMUR12**-S) and IgG, purified over antigen-agarose (Cat # **NMUR12**-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 human NMUR12-P sequence shows 65% homology with mouse and rat NMUR1. No significant sequence homology exist with other NMUR2 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.

(2) Citations of ADI's Antibodies (see web site for updated list)

Shetzline SE, 2004, Blood, 104, 1833-1840 WB

*This product is for in vitro research use only.

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