ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

# Neuromedin U peptide

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| **Cat.** NMU52-P | Rat purified NmU full length peptide | **SIZE**: 1 mg |
| **Cat.** NMU53-P | Rat purified NmU full length peptide | **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). Two molecular forms of NmU, **NmU-25** and its cleavage product (**NmU-8**) were initially isolated in 1985 from porcine spinal cord and then found in variety of mammals, birds, and reptile. 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. Recent identification of two structurally related, orphan G-protein coupled receptors, termed **NMUR1 (GPCR66/FM-3/SNORF62**) and **NMUR2 (TGR-1/FM-4/SNORF72),** as cognate receptors of NmU will help understand the physiological roles of NmU at the cellular and molecular levels. NMU receptors display a typical 7 TM domains with extracellular N-terminus and intracellular C-terminus.

**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.

NmU was synthesized using standard fmoc amino acids, and purified by hplc.

**Rat NmU:** 23 aa (mol wt. 2644); Purity >95-100%

YKV NEY QGP VAP SGG FFL FRP RN-amide

## Form & Storage of Peptides

**Control/blocking peptide**

100 ug/100 ul solution — lyophilized powder

Buffer: PBS, pH 7.5 and 0.05% sodium azide

**Reconstitute powder** in the original vol. of water

**Storage**

**Short-term**: unopened, undiluted vials for less than a week at 4oC.

**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.

**General References**: 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

*This product is for in vitro research use only.

**Some New Antibodies from ADI…**

• Neuromedin U, NMU and NMUR1 and NMUR2 antibodies, Neurotensin and receptors, Ghrelin and Ghrelin receptors, Orexin and orexin receptors, CART, and Leptin receptors

**Western Blot recycling kit** (Use the same blot to probe with multiple antibodies) **recycle blot at room temp in 5-10 min; No mercaptoethanol or heating required**).

ReadyBlot protein Explorer: Proteins extracted and provide in a single blot from various regions of the brain, kidney. GI-tract, and major tissues from mouse, rat, and human

NMU52-53-P 71212A

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