ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

**Neurotensin Peptide**

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| **Cat.** NT51-P | Purified human NT (13 aa, full length) | **SIZE**: 1 mg |
| **Cat.** NT71-P | Human NT fragment 8-13 | **SIZE**: 1 mg |

**Neurotensin (NT)** is an endogenous tridecapeptide neurotransmitter (pGlu-Leu-Tyr-Glu-Asn-Lys-Pro-Arg-Arg-pro-Tyr-Ile-Leu-OH) that was originally isolated from bovine hypothalamus. NT influences distinct central and peripheral physiological functions in mammals. Central administration of NT modulates dopaminergic transmission and triggers hypothermic and naloxone-insensitive analgesic responses, whereas peripheral effects include hypotension, decrease gastric acid release, potentiation of lipid digestion. NT causes contraction of smooth muscle. NT is widely distributed throughout the CNS. It has been localized to catecholamine-containing neurons. NT gene (human chromosome 12q21) produces both NT and neuromedin N (NN). In the rat, the NT precursor consists of a 169-aa polypeptide. The signal peptide (1-22 aa) is removed to produce a peptide that is further processed to produce NN (142-147 aa) and NT (150-162 aa). NT sequence is completely conserved in mouse, rat, human, canine, bovine etc. NT initiates its biological action by interacting with two distinct G-protein coupled receptors (**NTR1 and NTR2**). Recently, a third receptor **NTR3** has been identified that is identical to **gp95/sortilin** and it is not coupled via the G-proteins. All three receptors bind NT through its C-terminal hexapeptide sequence (**8 RRPYIL 13).** Biologically active **NT (NT8-13**) has also been shown to interact with the extracellular domain 3 (between TM6-7) of NTR1.

## Source of Peptide

**Human NT** (pE)LY ENK PRR PY I L, (pE)=Pyroglutamte, 13 aa, **mol wt 1673**) full length (designated **NT51-P or control peptide**) was synthesized and purified by hplc (~95% purity).

Human NT Fragment 8-13 (**Cat # NT71-P**) with the sequence (RR PY I L, 6 AA, **mol wt 817.00**) was synthesized and purified by hplc to ~100% purity.

## Form & Storage of Antibodies/Peptide Control

**Peptide** is provided 1 mg/vial as lyophilized powder. It should be stored frozen at -20°C or below in suitable aliquots.

## Recommended Usage

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

## Specificity & Cross-reactivity

The human NT51-P sequence shows is completely conserved in human, mouse, rat, bovine, canine, and 92% in G. pig NT. No significant sequence homology exist with other neuromedins. It can be used in ELISA or antibody blocking experiments to demonstrate anti-NT antibody (Cat # NT61-S) specificity.

**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 et al (2000) JBC 275, 20247.

*This product is for in vitro research use only.

## Related items available from ADI

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