

## Product Information

## Anti-Neuropeptide Y (NPY)

Produced in Rabbit, Whole Antiserum

**N9528**

### Product Description

Anti-Neuropeptide Y is produced in rabbit using as immunogen synthetic neuropeptide Y (NPY, porcine) (GeneID 397304), conjugated to KLH. The corresponding sequence is highly conserved (single amino acid substitution) in human and rat NPY and is highly conserved (84% identity) in the C-terminus region (24-36) of human peptide YY. The product is delipidized whole antiserum.

Anti-Neuropeptide Y specifically recognizes human, rat, porcine and sheep NPY. The antibody may be used in various immunochemical techniques including ELISA and immunohistochemistry (IHC). The antibody recognizes by ELISA, NPY (human), NPY (porcine), NPY (sheep), NPY (13-36), NPY (18-36), and may also cross-react with PYY (human). It does not cross-react with neurokinin B (NKB), neurokinin A (NKA), substance P (SP), calcitonin, somatostatin and BSA.

Neuropeptide Y (NPY), a 36-amino acid peptide amide, is a major regulatory neuropeptide widely distributed in the mammalian central (CNS) and peripheral nervous systems (PNS). NPY belongs to the pancreatic polypeptide family of peptides which are characterized by a common tertiary structure.<sup>1,2</sup> Within this family, an intestinal peptide hormone, peptide YY (PYY), is most closely related to NPY. In the CNS, NPY is involved in regulation of blood pressure, memory processing, circadian rhythm, and stimulation of food intake.<sup>2</sup> In the PNS, NPY has potent vasoconstrictor activity and acts as a neurotransmitter/neuromodulator of sympathetic neurons and adrenal glands.<sup>3,4</sup> NPY is one of the most abundant peptides found in the CNS, widely distributed in the brain. High levels of NPY are present in the cerebral cortex, amygdaloid nuclei, hippocampal formation, and hypothalamus.<sup>5-7</sup> In the PNS, NPY is found mainly in sympathetic neurons that innervate vascular smooth muscle, heart, and urogenital tract.<sup>3,8,9</sup> The biological actions of NPY in the brain and periphery are mediated by at least two different NPY receptors, designated Y1 and Y2 receptor subtypes.<sup>10-11</sup>

### Reagent

Supplied as whole antiserum, containing 15 mM sodium azide as a preservative.

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

### Product Profile

#### ELISA Indirect

A working antibody dilution of 1:5,000-1:10,000 is determined using a peptide coating at 0.5-1 mg/well in 0.05 M Carbonate/Bicarbonate buffer, (C3041), pH 9.6, and pNPP, (N2770) as substrate.

#### Immunohistochemistry

A working antibody dilution of 1:8,000-1:16,000 is determined using frozen sections of rat brain perfusion-fixed with 4% paraformaldehyde.

**Note:** In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

## References

1. Tatemoto, K., Carlquist, M., & Mutt, V. (1982). Neuropeptide Y—a novel brain peptide with structural similarities to peptide YY and pancreatic polypeptide. *Nature*, 296(5858), 659-660.
2. Emson, P. C., & De Quidt, M. E. (1984). NPY—a new member of the pancreatic polypeptide family. *Trends in Neurosciences*, 7(2), 31-35.
3. Lundberg, J. M., et al., *Acta Physiol. Scand.*, 116, 477-480 (1982).
4. Edvinsson, L., Håkanson, R., Wahlestedt, C., & Uddman, R. (1987). Effects of neuropeptide Y on the cardiovascular system. *Trends in Pharmacological Sciences*, 8(6), 231-235.
5. deQuidt, M. E., and Emson, P., *Neurosci.*, 18, 545-618 (1986).
6. Higuchi, H., et al., *J. Biol. Chem.*, 263, 6288-6295 (1988).
7. Chan-Palay, V., Allen, Y. S., Lang, W., Haesler, U., & Polak, J. M. (1985). I. Cytology and distribution in normal human cerebral cortex of neurons immunoreactive with antisera against neuropeptide Y. *Journal of Comparative Neurology*, 238(4), 382-389.
8. Schalling, M., et al., *Neurosci.*, 41, 753-766 (1991).
9. Sundler, F., Moghizadeh, E., Håkanson, R., Ekelund, M., & Emson, P. (1983). Nerve fibers in the gut and pancreas of the rat displaying neuropeptide-Y immunoreactivity: intrinsic and extrinsic origin. *Cell and tissue research*, 230(3), 487-493.
10. Michel, M. C. (1991). Receptors for neuropeptide Y: multiple subtypes and multiple second messengers. *Trends in pharmacological sciences*, 12, 389-394.
11. Quirion, R., MARTEL, J. C., Dumont, Y., Cadieux, A., Jolicoeur, F., ST-PIERRE, S. E. R. G. E., & Fournier, A. (1990). Neuropeptide Y Receptors: Autoradiographic Distribution in the Brain and Structure-Activity Relationships a. *Annals of the New York Academy of Sciences*, 611(1), 58-72.

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