

## Rat anti-Substance P (NC1/34), #MM-0001-1

### DATASHEET

**Product name:** Substance P antibody

**Background information:** The discovery of substance P (SP) was reported in 1931. After more than 70 years of investigation, SP is perhaps the best understood neuropeptide transmitter. Substance P is an undecapeptide, which by the mid-1980s was recognized to belong to the tachykinin peptide family; it is also member of the neurokinins. It has been proposed that SP, released from primary afferent nerve endings, plays a role in chronic inflammation and pain. Neurotransmitters appear to play a key role in the regulation of emotions and antagonists of their receptors may be novel psychotropic drugs of the future.

**Product description:** A sensitive antibody against Substance P.

**Format:** 0.5 ml of lyophilized, purified antibody. **Reconstitute in 0.5 ml of H<sub>2</sub>O.** It contains no additives.

**Species:** Rat

**Clonality:** Monoclonal

**Isotype:** IgG2a

**Reactivity / specificity:** This antibody recognizes COOH-terminal end of substance P. It does not recognize Leu- or Met enkephalin, somatostatin or beta-endorphin; cross-reactivity with eledoisin: 5%. Extensively used for the localization of substance P-immunoreactive sites in tissue sections by PAP staining and immunofluorescence in the nervous system of experimental animals and human origin. Specific for: predicted to all mammalian species, crab and pigeon.

**Applications:** Immunohistochemistry (IHC), Electron microscopy immunocytochemistry (ICC), Neuroimmunocytotoxic studies.

**Recommended starting dilutions:** If reconstituted in 0.5 ml: IHC IHC / ICC 1:200. Optimal dilution has to be determined by the user.

**Storage:** Lyophilized antibody can be kept at 4°C for up to 3 months and should be kept at -20°C for long-term storage. To avoid freeze-thaw cycles, reconstituted antibody should be aliquoted before freezing for short-term storage (-20°C) or for long-term storage (-80°C). For maximum recovery of product, centrifuge the original vial prior to removing the cap. Further dilutions can be made in assay buffer.

**Stability:** Minimum 1 year from reception date.

#### References:

- 1 Vilar, B. et al. Alleviating Pain Hypersensitivity through Activation of Type 4 Metabotropic Glutamate Receptor. *J Neurosci* 33, 18951-18965 (2013).
- 2 Saeed, A. W. & Ribeiro-da-Silva, A. De Novo Expression of Neurokinin-1 Receptors by Spinoparabrachial Lamina I Pyramidal Neurons Following a Peripheral Nerve Lesion. *J Comp Neurol* 521, 1915-1928 (2013).
- 3 Almarestani, L., Waters, S. M., Krause, J. E., Bennett, G. J. & Ribeiro-da-Silva, A. De Novo Expression of the Neurokinin 1 Receptor in Spinal Lamina I Pyramidal Neurons in Polyarthrititis. *J Comp Neurol* 514, 284-295 (2009).

- 4 Ramien, M., Ruocco, I., Cuello, A. C., St-Louis, M. & Ribeiro-Da-Silva, A. Parasympathetic nerve fibers invade the upper dermis following sensory denervation of the rat lower lip skin. *J Comp Neurol* 469, 83-95 (2004).
- 5 Ruocco, I., Cuello, A. C., Parent, A. & Ribeiro-da-Silva, A. Skin blood vessels are simultaneously innervated by sensory, sympathetic and parasympathetic fibers. *J. Comp. Neurol* 448, 323-336 (2002).
- 6 Cuello, A. C., Ribeiro-da-Silva, A., Maa, W., Koninck, Y. D. & Henryb, J. L. Organization of substance P primary sensory neurons: ultrastructural and physiological correlates. *Regul Pept* 46, 155-164 (1993).
- 7 Cuello, A. C., Galfre, G. & Milstein, C. Detection of substance P in the central nervous system by a monoclonal antibody. *PNAS* 76, 3532-3536 (1979).

**Limitations:** This product is to be used for research purposes only.