

Tachykinin (FL-129): sc-15322

BACKGROUND

The tachykinin family consists of amidated neuropeptides that share a carboxy-terminal sequence (Phe-X-Gly-Leu-Met-NH₂). Preprotachykinin I, also designated protachykinin 1 precursor (PPT), is a common precursor of tachykinins. Preprotachykinin I alternately splices to form various isoforms. These isoforms include: substance P; neurokinin A (NKA, substance K, neurokinin B); neurokinin B; neuropeptide K (NPK); neuropeptide γ ; and C-terminal flanking peptide. Substance P is expressed primarily in the small diameter primary sensory fibers of the peripheral nervous system, and in the superficial dorsal horn of the spinal cord, the substantia nigra, and the medial amygdaloid nucleus of the central nervous system. Tachykinin peptides have many pleiotropic functions including: neurotransmission, immune/hematopoietic modulation, angiogenesis, and mitogenesis. Preprotachykinin I has been implicated in breast cancer and bone marrow metastasis. Substance P plays a role in depression.

REFERENCES

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- Lai, J.P., et al. 1998. Identification of a δ isoform of preprotachykinin mRNA in human mononuclear phagocytes and lymphocytes. *J. Neuroimmunol.* 9: 121-128.
- Kramer, M.S., et al. 1998. Distinct mechanism for antidepressant activity by blockade of central Substance P receptors. *Science* 281: 1640-1645.
- Page, N.M., et al. 2000. Excessive placental secretion of neurokinin B during the third trimester causes pre-eclampsia. *Nature* 405: 797-800.
- Ribeiro-da-Silva, A. and Hokfelt, T. 2000. Neuroanatomical localization of substance P in the CNS and sensory neurons. *Neuropeptides* 34: 256-271.
- Singh, D., et al. 2000. Increased expression of preprotachykinin-I and neurokinin receptors in human breast cancer cells: implications for bone marrow metastasis. *Proc. Natl. Acad. Sci. USA* 97: 388-393.
- Qian, J., et al. 2001. Cloning of human preprotachykinin-I oriniter and the role of cyclic adenosine 5'-monophosphate response elements in its expression by IL-1 and stem cell factor. *J. Immunol.* 166: 2553-2561.

CHROMOSOMAL LOCATION

Genetic locus: TAC1 (human) mapping to 7q21.3; Tac1 (mouse) mapping to 6 A1.

SOURCE

Tachykinin (FL-129) is a rabbit polyclonal antibody raised against amino acids 1-129 representing full length Tachykinin of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

Tachykinin (FL-129) is recommended for detection of Tachykinin precursor and all active peptides of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Tachykinin (FL-129) is also recommended for detection of Tachykinin precursor and all active peptides in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Preprotachykinin 1 siRNA (h): sc-42297, Preprotachykinin 1 siRNA (m): sc-42298, Preprotachykinin 1 shRNA Plasmid (h): sc-42297-SH, Preprotachykinin 1 shRNA Plasmid (m): sc-42298-SH, Preprotachykinin 1 shRNA (h) Lentiviral Particles: sc-42297-V and Preprotachykinin 1 shRNA (m) Lentiviral Particles: sc-42298-V.

Molecular Weight of Tachykinin: 16 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

- Jaafari, N., et al. 2007. Distribution pattern of tachykinin NK2 receptors in human colon: involvement in the regulation of intestinal motility. *J. Comp. Neurol.* 503: 381-391.
- Jaafari, N., et al. 2008. Qualitative and quantitative analysis of tachykinin NK2 receptors in chemically defined human colonic neuronal pathways. *J. Comp. Neurol.* 507: 1542-1558.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.


 MONOS
 Satisfaction
 Guaranteed

Try **Tachykinin (H-2): sc-25266** or **Tachykinin (A-2): sc-55493**, our highly recommended monoclonal alternatives to Tachykinin (FL-129). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Tachykinin (H-2): sc-25266**.