

Technical Data Sheet

Purified Rat Anti-Substance P

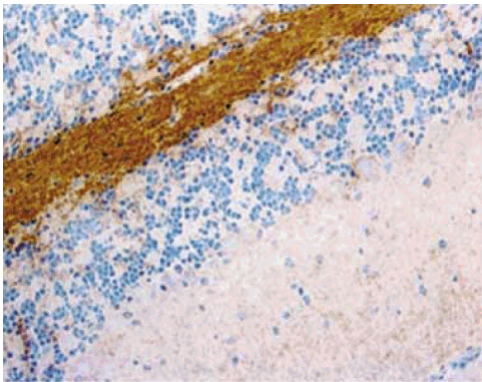
Product Information

Material Number:	556312
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	NC1/34
Immunogen:	Substance P conjugated to carrier protein
Isotype:	Rat IgG2a
Reactivity:	QC Testing: Rat Tested in Development: Pigeon
Target MW:	15 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

Peptides with transmitter-like characteristics are found in many areas of the brain, and may cause inhibition, excitation or both when applied to target neurons. These peptides are synthesized as secretory products and grouped into families according structural and functional similarity. Substance P, a member of the tachykinin family, is thought to play a role in nociceptive transmission in the dorsal horn of the spinal cord. Its proposed role is based on a number of anatomical and physiological findings. For example, substance P is present in high concentration in a subpopulation of fine-diameter primary sensory axons and in nerve terminals in dorsal horn regions where primary sensory nociceptors terminate. It specifically excites nociceptive dorsal horn and is released in the spinal cord in vivo during activation of nociceptive primary sensory fibers. Additionally, substance P receptor antagonists have been shown to block nociceptive responses in vivo and in vivo.

NC1/34 is specific for substance P. It reacts with mammalian substance P and has been shown to also cross-react with a substance P-like protein in the pigeon brain. It binds to subpopulations of nerve terminals and cell bodies in the central nervous system. The initial characterization of the antibody was in rat brain. The antibody does not cross-react with other mammalian brain peptides tested including [Leu]enkephalin, [Met]enkephalin, somatostatin, or β-endorphin. NC1/34 recognizes an epitope in the carboxy terminal region of substance P and thus does not differentiate substance P from neurokinins A and B. Substance P conjugated to carrier protein was used as immunogen.



Paraformaldehyde-fixed, frozen tissue section of rat cerebellum stained for Substance P (mAb NC1/34) using a DAB Chromogen and Hematoxylin counterstain. Arrows indicate staining of nerve fibers.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at 4°C.

Application Notes

Application

Immunohistochemistry-formalin (antigen retrieval required)	Routinely Tested
Electron microscopy	Reported
Radioimmunoassay	Reported

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Product Notices

1. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
2. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

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- Ribeiro-da-Silva A, Pioro EP, Cuello AC. Substance P- and enkephalin-like immunoreactivities are colocalized in certain neurons of the substantia gelatinosa of the rat spinal cord: an ultrastructural double-labeling study. *J Neurosci*. 1991; 11(4):1068-1080.(Clone-specific: Electron microscopy)
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