

NK-1R (T-20): sc-5220

BACKGROUND

The substance P receptor, also designated NK-1R for neurokinin 1 receptor, is a member of a class of tachykinin receptors which also includes the NK-2 receptor and the NK-3 receptor. Substance P receptors bind to tachykinin peptides, including substance P, substance K and neuromedin K. NK-1R is likely to be involved in nociceptive transmission, basal ganglia function or anxiety and depression. NK-1R is expressed in a high proportion of spinothalamic and spinobrachial neurons located in lamina 1. NK-1R neurons in the dorsal horn of the spinal cord may play a role in chronic neuropathic and inflammatory pain. Ligand-induced internalization of NK-1R into early endosomes deplete the cell surface of these receptors. This internalization may be involved in a downregulation response of a cell to substance P.

CHROMOSOMAL LOCATION

Genetic locus: TACR1 (human) mapping to 2p12; Tacr1 (mouse) mapping to 6 C3.

SOURCE

NK-1R (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NK-1R of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-5220 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

NK-1R (T-20) is recommended for detection of NK-1R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

NK-1R (T-20) is also recommended for detection of NK-1R in additional species, including equine, canine and bovine.

Suitable for use as control antibody for NK-1R siRNA (h): sc-36069, NK-1R siRNA (m): sc-36070, NK-1R shRNA Plasmid (h): sc-36069-SH, NK-1R shRNA Plasmid (m): sc-36070-SH, NK-1R shRNA (h) Lentiviral Particles: sc-36069-V and NK-1R shRNA (m) Lentiviral Particles: sc-36070-V.

Molecular Weight (predicted) of NK-1R: 46 kDa.

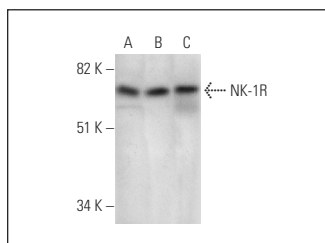
Molecular Weight (observed) of NK-1R glycosylation: 74/101 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat whole cell lysate: sc-2204 or HL-60 whole cell lysate: sc-2209.

RESEARCH USE

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

DATA



NK-1R (T-20): sc-5220. Western blot analysis of NK-1R expression in K-562 (A), Jurkat (B) and HL-60 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Evrard, H.C., et al. 2003. Specific innervation of aromatase neurons by substance P fibers in the dorsal horn of the spinal cord in quail. *J. Comp. Neurol.* 465: 309-318.
2. Lallemand, F., et al. 2003. Substance P protects spiral ganglion neurons from apoptosis via PKC-Ca²⁺-MAPK/ERK pathways. *J. Neurochem.* 87: 508-521.
3. Gauthier, P., et al. 2006. Diaphragm recovery by laryngeal innervation after bilateral phrenicotomy or complete C2 spinal section in rats. *Neurobiol. Dis.* 24: 53-66.
4. Backman, L.J., et al. 2011. Endogenous substance P production in the Achilles tendon increases with loading in an *in vivo* model of tendinopathy-peptidergic elevation preceding tendinosis-like tissue changes. *J. Musculoskelet. Neuronal Interact.* 11: 133-140.
5. Backman, L.J., et al. 2011. Substance P is a mechanoresponsive, autocrine regulator of human tenocyte proliferation. *PLoS ONE* 6: e27209.
6. Zhang, H.P., et al. 2014. The function of P2X3 receptor and NK1 receptor antagonists on cyclophosphamide-induced cystitis in rats. *World J. Urol.* 32: 91-97.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



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