

NK-1R (H-83): sc-15323

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 (H-83) is a rabbit polyclonal antibody raised against amino acids 325-407 mapping at the C-terminus 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.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

NK-1R (H-83) 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 (H-83) is also recommended for detection of NK-1R in additional species, including equine and canine.

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: U-937 cell lysate: sc-2239, CCD-1064Sk cell lysate: sc-2263 or K-562 whole cell lysate: sc-2203.

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

- Stucchi, A.F., et al. 2003. A neurokinin 1 receptor antagonist reduces an ongoing ileal pouch inflammation and the response to a subsequent inflammatory stimulus. *Am. J. Physiol. Gastrointest. Liver Physiol.* 285: G1259-G1267.
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- Monastyrskaya, K., et al. 2005. The NK-1 receptor localizes to the plasma membrane microdomains, and its activation is dependent on lipid raft integrity. *J. Biol. Chem.* 280: 7135-7146.
- Bardelli, C., et al. 2005. Expression of functional NK-1 receptors in human alveolar macrophages: superoxide anion production, cytokine release and involvement of NFκB pathway. *Br. J. Pharmacol.* 145: 385-396.
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- Chernova, I., et al. 2009. Substance P (SP) enhances CCL5-induced chemotaxis and intracellular signaling in human monocytes, which express the truncated neurokinin-1 receptor (NK1R). *J. Leukoc. Biol.* 85: 154-164.
- Koon, H.W., et al. 2010. Substance P modulates colitis-associated fibrosis. *Am. J. Pathol.* 177: 2300-2309.
- Monaco-Shawver, L., et al. 2011. Substance P inhibits natural killer cell cytotoxicity through the neurokinin-1 receptor. *J. Leukoc. Biol.* 89: 113-125.
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PROTOCOLS

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



Try **NK-1R (D-11): sc-365091** or **NK-1R (F-3): sc-514453**, our highly recommended monoclonal alternatives to NK-1R (H-83).