SANTA CRUZ BIOTECHNOLOGY, INC.

NK-3R siRNA (m): sc-42295

BACKGROUND

Substance P (SP) and neurokinin-A (NK-A) are members of the tachykinins, and they function as modulators of the immune and hematopoietic systems. The tachykinins interact with each of three cloned neurokinin (NK) receptors (NK-1R, NK-2R, NK-3R), with SP and NK-A exhibiting binding preferences for NK-1R and NK-2R, respectively. NK-4R shares close homology with NK-3R, and both have nearly identical pharmacologicl properties. In the normal ileum and colon, NK-1R and NK-2R are localized to smooth muscle cells of the muscularis mucosae and propria and to a few inflammatory cells of the lamina propria. NK-1R expression is also found in the muscular wall of submucosal blood vessels, enteric neurons and, to a lesser degree, in surface epithelial cells. NK-3R is found in the spinal cord in both lamina X and lamina II.

REFERENCES

1. Rameshwar, P., et al. 1995. Substance P (SP) mediates production of stem cell factor and interleukin-1 in bone marrow stroma: potential autoregulatory role for these cytokines in SP receptor expression and induction. Blood 86: 482-490.
2. Zerari, F., et al. 1997. Immunoelectron microscopic localization of NK-3 receptor in the rat spinal cord. Neuroreport 8: 2661-2664.
3. Rameshwar, P., et al. 1997. Hematopoietic modulation by the tachykinins. Acta Haematol. 98: 59-64.
4. Sarau, H.M., et al. 2000. Evidence that the proposed novel human "neurokinin-4" receptor is pharmacologically similar to the human neurokinin-3 receptor but is not of human origin. Mol. Pharmacol. 58: 552-559.
5. Renzi, D., et al. 2000. Substance P (neurokinin-1) and neurokinin A (neurokinin-2) receptor gene and protein expression in the healthy and inflamed human intestine. Am. J. Pathol. 157: 1511-1522.

CHROMOSOMAL LOCATION

Genetic locus: Tacr3 (mouse) mapping to 3 G3.

PRODUCT

NK-3R siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NK-3R shRNA Plasmid (m): sc-42295-SH and NK-3R shRNA (m) Lentiviral Particles: sc-42295-V as alternate gene silencing products.

For independent verification of NK-3R (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-42295A, sc-42295B and sc-42295C.

RESEARCH USE

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

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NK-3R siRNA (m) is recommended for the inhibition of NK-3R expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NK-3R gene expression knockdown using RT-PCR Primer: NK-3R (m)-PR: sc-42295-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.