SANTA CRUZ BIOTECHNOLOGY, INC.

MRGX2 siRNA (h): sc-75823

BACKGROUND

Mas-related G protein-coupled receptor member X1 (MRGX) is a sensory neuron-specific G protein-coupled receptor that is involved in the development and function of nociceptive neurons and may also regulate the sensation or modulation of pain. There are four members of the human MRGX family, designated MRGX1-4. MRGX2 (mas-related G protein-coupled receptor member X2), also known as MRGPRX2, is a 330 amino acid multi-pass membrane protein that functions as an orphan receptor and, like MRGX, is thought to be involved in the function of nociceptive neurons. Expressed in the central nervous system with highest expression in dorsal root ganglia, MRGX2 may also be involved in cortistatin function, possibly playing a role in sleep regulation and cortical function.

REFERENCES

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4. Takeda, S., et al. 2002. Identification of G protein-coupled receptor genes from the human genome sequence. FEBS Lett. 520: 97-101.
5. Robas, N., et al. 2003. MRGX2 is a high potency cortistatin receptor expressed in dorsal root ganglion. J. Biol. Chem. 278: 44400-44404.
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7. Nothacker, H.P., et al. 2005. Proadrenomedullin N-terminal peptide and cortistatin activation of MrgX2 receptor is based on a common structural motif. Eur. J. Pharm. 519: 191-193.
8. Zhang, L., et al. 2005. Cloning and expression of MRG receptors in macaque, mouse, and human. Brain research. Mol. Brain Res. 133: 187-197.
9. Burstein, E.S., et al. 2006. Characterization of the Mas-related gene family: structural and functional conservation of human and rhesus MrgX receptors. Br. J. Pharm. 147: 73-82.

CHROMOSOMAL LOCATION

Genetic locus: MRGPRX2 (human) mapping to 11p15.1.

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.

PRODUCT

MRGX2 siRNA (h) 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 MRGX2 shRNA Plasmid (h): sc-75823-SH and MRGX2 shRNA (h) Lentiviral Particles: sc-75823-V as alternate gene silencing products.

For independent verification of MRGX2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-75823A, sc-75823B and sc-75823C.

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

MRGX2 siRNA (h) is recommended for the inhibition of MRGX2 expression in human 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 MRGX2 gene expression knockdown using RT-PCR Primer: MRGX2 (h)-PR: sc-75823-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.