SANTA CRUZ BIOTECHNOLOGY, INC.

NMUR1 siRNA (m): sc-61210

BACKGROUND

Neuromedin U is a neuropeptide with high activity on smooth muscle. It is widely expressed in gastrointestinal systems and central nervous system (CNS). Peripheral activities of neuromedin U include smooth muscle stimulation, ion transport alterations in the gut and the regulation of local blood flow and adrenocortical function. Neuromedin U receptors 1 and 2 (NMUR1 and NMUR2) are multi-pass membrane proteins that belong to the G protein-coupled receptor 1 family of proteins. Both NMUR1 and NMUR2 act as receptors for the neuromedin U neuropeptide. NMUR1 is detected in peripheral organs, particularly in urogenital and gastrointestinal systems, with highest levels in testis. It's expression in CNS is low, but the protein has been detected in cerebellum, hippocampus, dorsal root ganglia and spinal cord. NMUR2 is predominantly detected in central nervous system with highest levels detected in medulla oblongata, spinal cord and thalamus. It may also be detected in testis but has low levels of expression in peripheral tissues.

REFERENCES

1. Bhattacharyya, S., et al. 2004. Studies of the neuromedin U-2 receptor gene in human obesity: evidence for the existence of two ancestral forms of the receptor. J. Endocrinol. 183: 115-120.
2. Brighton, P.J., et al. 2004. Signaling and ligand binding by recombinant neuromedin U receptors: evidence for dual coupling to $G_{\alpha\ q/11}$ and $G_{\alpha\ i}$ and an irreversible ligand-receptor interaction. Mol. Pharmacol. 66: 1544-1556.
3. Aiyar, N., et al. 2004. Radioligand binding and functional characterization of recombinant human NmU1 and NmU2 receptors stably expressed in clonal human embryonic kidney-293 cells. Pharmacology 72: 33-41.
4. Gartlon, J., et al. 2004. Localisation of NMU1R and NMU2R in human and rat central nervous system and effects of neuromedin-U following central administration in rats. Psychopharmacology 177: 1-14.
5. Brighton, P.J., et al. 2004. Neuromedin U and its receptors: structure, function, and physiological roles. Pharmacol. Rev. 56: 231-248.
6. Qiu, D.L., et al. 2005. Neuromedin U receptor-2 mRNA and HCN channels mRNA expression in NMU-sensitive neurons in rat hypothalamic paraventricular nucleus. Neurosci. Lett. 374: 69-72.

CHROMOSOMAL LOCATION

Genetic locus: Nmur1 (mouse) mapping to 1 D.

PRODUCT

NMUR1 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 NMUR1 shRNA Plasmid (m): sc-61210-SH and NMUR1 shRNA (m) Lentiviral Particles: sc-61210-V as alternate gene silencing products.

For independent verification of NMUR1 (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-61210A, sc-61210B and sc-61210C.

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

NMUR1 siRNA (m) is recommended for the inhibition of NMUR1 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 NMUR1 gene expression knockdown using RT-PCR Primer: NMUR1 (m)-PR: sc-61210-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.