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NMBR siRNA (h): sc-45362

BACKGROUND

The bombesin receptor family includes the gastrin-releasing peptide (GRPR) and neuromedin B (NMBR) receptors. Both receptors are expressed in various brain regions and in the digestive tract. NMBR belongs to the G protein-coupled receptor 1 family. The gene encoding NMBR protein maps to chromosome 6q24.1. NMBR, an integral membrane protein, binds neuromedin B, a mitogen and growth factor for gastrointestinal epithelial tissue and normal and neoplastic lung.

REFERENCES

1. Siegfried, J.M., et al. 1999. Evidence for autocrine actions of neuromedin B and gastrin-releasing peptide in non-small cell lung cancer. *Pulm. Pharmacol. Ther.* 12: 291-302.
2. Sun, B., et al. 2000. The presence of receptors for bombesin/GRP and mRNA for three receptor subtypes in human ovarian epithelial cancers. *Regul. Pept.* 90: 77-84.
3. Shuttleworth, S.J., et al. 2004. Identification and optimization of novel partial agonists of neuromedin B receptor using parallel synthesis. *Bioorg. Med. Chem. Lett.* 14: 3037-3042.
4. Marvanova, M., et al. 2004. Identification of genes regulated by memantine and MK-801 in adult rat brain by cDNA microarray analysis. *Neuropsychopharmacology* 29: 1070-1079.
5. Shan, L., et al. 2004. Bombesin-like peptide receptor gene expression, regulation and function in fetal murine lung. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 286: L165-L173.

CHROMOSOMAL LOCATION

Genetic locus: NMBR (human) mapping to 6q24.1.

PRODUCT

NMBR 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see NMBR shRNA Plasmid (h): sc-45362-SH and NMBR shRNA (h) Lentiviral Particles: sc-45362-V as alternate gene silencing products.

For independent verification of NMBR (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-45362A, sc-45362B and sc-45362C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

NMBR siRNA (h) is recommended for the inhibition of NMBR 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

NMBR (G-3): sc-374623 is recommended as a control antibody for monitoring of NMBR gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NMBR gene expression knockdown using RT-PCR Primer: NMBR (h)-PR: sc-45362-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Park, H.J., et al. 2013. Hypoxia regulates the expression of the neuromedin B receptor through a mechanism dependent on hypoxia-inducible factor-1 α . *PLoS ONE* 8: e82868.

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.