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BRS-3 siRNA (m): sc-44788

BACKGROUND

Bombesin receptor subtype-3 (BRS-3) is an integral membrane protein belonging to the G protein-coupled receptor 1 family. The gene encoding for the BRS-3 protein maps against chromosome Xq26.3. BRS-3 is important in sperm cell division, maturation and function. Its actions are mediated by G protein interactions which activate a phosphatidylinositol-calcium second messenger system. BRS-3 is expressed in germ cells in testis and in lung carcinoma cells. Unlike other bombesin proteins, BRS-3 does not seem to be detected in the gut and central nervous system, but has been found in rat gastrointestinal tract. Mice lacking the gene encoding for BRS-3 develop obesity suggesting that BRS-3 may play a role in the regulation of plasma Insulin concentration.

REFERENCES

1. Fathi, Z., et al. 1993. BRS-3: a novel bombesin receptor subtype selectively expressed in testis and lung carcinoma cells. *J. Biol. Chem.* 268: 5979-5984.
2. Gorbulev, V., et al. 1994. Organization and chromosomal localization of the gene for the human bombesin receptor subtype expressed in pregnant uterus. *FEBS Lett.* 340: 260-264.
3. Weber, D., et al. 2003. Design of selective peptidomimetic agonists for the human orphan receptor BRS-3. *J. Med. Chem.* 46: 1918-1930.
4. Matsumoto, K., et al. 2003. Bombesin receptor subtype-3 modulates plasma Insulin concentration. *Peptides* 24: 83-90.
5. Boyle, R.G., et al. 2005. The design of a new potent and selective ligand for the orphan bombesin receptor subtype 3 (BRS3). *J. Pept. Sci.* 11: 136-141.
6. Porcher, C., et al. 2005. Bombesin receptor subtype-3 is expressed by the enteric nervous system and by interstitial cells of Cajal in the rat gastrointestinal tract. *Cell Tissue Res.* 320: 21-31.

CHROMOSOMAL LOCATION

Genetic locus: *Brs3* (mouse) mapping to X A5.

PRODUCT

BRS-3 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BRS-3 shRNA Plasmid (m): sc-44788-SH and BRS-3 shRNA (m) Lentiviral Particles: sc-44788-V as alternate gene silencing products.

For independent verification of BRS-3 (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-44788A, sc-44788B and sc-44788C.

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 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

BRS-3 siRNA (m) is recommended for the inhibition of BRS-3 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 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

BRS-3 (B-5): sc-271712 is recommended as a control antibody for monitoring of BRS-3 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 BRS-3 gene expression knockdown using RT-PCR Primer: BRS-3 (m)-PR: sc-44788-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.