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BRS-3 shRNA (h) Lentiviral Particles: sc-44787-V

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.
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CHROMOSOMAL LOCATION

Genetic locus: BRS3 (human) mapping to Xq26.3.

PRODUCT

BRS-3 shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see BRS-3 siRNA (h): sc-44787 and BRS-3 shRNA Plasmid (h): sc-44787-SH as alternate gene silencing products.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

PROTOCOLS

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

APPLICATIONS

BRS-3 shRNA (h) Lentiviral Particles is recommended for the inhibition of BRS-3 expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor BRS-3 gene expression knockdown using RT-PCR Primer: BRS-3 (h)-PR: sc-44787-PR (20 μ l). Annealing temperature for the primers should be $55-60^\circ$ C and the extension temperature should be $68-72^\circ$ C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.