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galectin-7 shRNA (h) Lentiviral Particles: sc-44534-V

BACKGROUND

Galectins are a family of soluble β -galactoside-binding animal lectins that modulate cell-to-cell adhesion and cell-to-extracellular matrix (ECM) interactions and play a role in tumor progression, pre-mRNA splicing and apoptosis. Galectin-7, expressed mainly in stratified squamous epithelium, is activated by p53 and repressed by retinoic acid. It is a pro-apoptotic protein that functions intracellularly upstream of JNK activation and cytochrome c release. The galectin-7 gene maps to chromosome 19.

REFERENCES

1. Couraud, P.O., et al. 1989. Molecular cloning, characterization, and expression of a human 14-kDa lectin. *J. Biol. Chem.* 264: 1310-1316.
2. Hirabayashi, J., et al. 1989. Cloning and nucleotide sequence of a full-length cDNA for human 14 kDa β -galactoside-binding lectin. *Biochim. Biophys. Acta* 1008: 85-91.
3. Madsen, P., et al. 1995. Cloning, expression, and chromosome mapping of human galectin-7. *J. Biol. Chem.* 270: 5823-5829.
4. Magnaldo, T., et al. 1995. Galectin-7, a human 14-kDa S-lectin, specifically expressed in keratinocytes and sensitive to retinoic acid. *Dev. Biol.* 168: 259-271.
5. Magnaldo, T., et al. 1998. Galectin-7, a marker of all types of stratified epithelia. *Differentiation* 63: 159-168.

CHROMOSOMAL LOCATION

Genetic locus: LGALS7 (human) mapping to 19q13.2.

PRODUCT

galectin-7 shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 2 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 galectin-7 siRNA (h): sc-44534 and galectin-7 shRNA Plasmid (h): sc-44534-SH as alternate gene silencing products.

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.

PROTOCOLS

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

APPLICATIONS

galectin-7 shRNA (h) Lentiviral Particles is recommended for the inhibition of galectin-7 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

galectin-7 (H-8): sc-166222 is recommended as a control antibody for monitoring of galectin-7 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 galectin-7 gene expression knockdown using RT-PCR Primer: galectin-7 (h)-PR: sc-44534-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° 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.

SELECT PRODUCT CITATIONS

1. Zhu, H., et al. 2013. Roles of galectin-7 and S100A9 in cervical squamous carcinoma: clinicopathological and *in vitro* evidence. *Int. J. Cancer* 132: 1051-1059.

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.