SANTA CRUZ BIOTECHNOLOGY, INC.

galectin-1 siRNA (m): sc-37259

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. Specifically, galectin-1 is an autocrine regulator of cell proliferation that plays a role in the maintenance of G_0 and in the control of G_2 traverse. Galectin-1, also known as LGALS1, is the protein product of a single gene linked to human chromosome 22q13.1. The galectin-1 protein contains 135 amino acids, a single internal EcoRI site and a polyadenylation signal. Galectin-1 can localize to both intracellular and extracellular space. Galectin-1 is expressed in human placenta, human lung, HL-6, Hep G2 and CEM cells.

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. Abbott, W.M., et al. 1989. Evidence that the 14 kDa soluble β-galactoside-binding lectin in man is encoded by a single gene. Biochem. J. 259: 291-294.
4. Goldstone, S.D., et al. 1991. Isolation of a cDNA clone, encoding a human β-galactoside binding protein, overexpressed during glucocorticoid-induced cell death. Biochem. Biophys. Res. Commun. 178: 746-750.
5. Baldini, A., et al. 1993. Mapping on human and mouse chromosomes of the gene for the β-galactoside-binding protein, an autocrine-negative growth factor. Genomics 15: 216-218.

CHROMOSOMAL LOCATION

Genetic locus: Lgals1 (mouse) mapping to 15 E1.

PRODUCT

galectin-1 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 galectin-1 shRNA Plasmid (m): sc-37259-SH and galectin-1 shRNA (m) Lentiviral Particles: sc-37259-V as alternate gene silencing products.

For independent verification of galectin-1 (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-37259A, sc-37259B and sc-37259C.

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

galectin-1 siRNA (m) is recommended for the inhibition of galectin-1 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.

GENE EXPRESSION MONITORING

galectin-1 (C-8): sc-166618 is recommended as a control antibody for monitoring of galectin-1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 galectin-1 gene expression knockdown using RT-PCR Primer: galectin-1 (m)-PR: sc-37259-PR (20 µl, 397 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cheng, Y.H., et al. 2022. galectin-1 contributes to vascular remodeling and blood flow recovery after cerebral ischemia in mice. Transl. Stroke Res. 13: 160-170.
2. Roldán-Montero, R., et al. 2022. galectin-1 prevents pathological vascular remodeling in atherosclerosis and abdominal aortic aneurysm. Sci. Adv. 8: eabm7322.

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.