

galectin-2 siRNA (m): sc-44533

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-2, also known as LGALS2, Lactose-binding lectin 2 or HL14, is structurally closely related to galectin-1, but is expressed primarily in the gastrointestinal tract. Galectin-2 induces apoptosis in activated T cells and binds to the cytokine lymphotoxin- α (LTA) with possible implications in risk of myocardial infarction.

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. Mehrabian, M., et al. 1993. Two members of the S-lac lectin gene family, LGALS1 and LGALS2, reside in close proximity on human chromosome 22q12-q13. *Genomics* 15: 418-420.
4. Cornillot, J.D., et al. 1998. Production and characterization of a monoclonal antibody able to discriminate galectin-1 from galectin-2 and galectin-3. *Glycobiology* 8: 425-432.
5. Oka, T., et al. 1999. Identification and cloning of rat galectin-2: expression is predominantly in epithelial cells of the stomach. *Arch. Biochem. Biophys.* 361: 195-201.
6. Abedin, M.J., et al. 2003. Potential roles of galectins in myeloid differentiation into three different lineages. *J. Leukoc. Biol.* 73: 650-656.
7. Sturm, A., et al. 2004. Human galectin-2: novel inducer of T cell apoptosis with distinct profile of caspase activation. *J. Immunol.* 173: 3825-3837.
8. Ozaki, K., et al. 2004. Functional variation in LGALS2 confers risk of myocardial infarction and regulates lymphotoxin- α secretion *in vitro*. *Nature* 429: 72-75.

CHROMOSOMAL LOCATION

Genetic locus: Lgals2 (mouse) mapping to 15 E1.

PRODUCT

galectin-2 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 galectin-2 shRNA Plasmid (m): sc-44533-SH and galectin-2 shRNA (m) Lentiviral Particles: sc-44533-V as alternate gene silencing products.

For independent verification of galectin-2 (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-44533A, sc-44533B and sc-44533C.

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

galectin-2 siRNA (m) is recommended for the inhibition of galectin-2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor galectin-2 gene expression knockdown using RT-PCR Primer: galectin-2 (m)-PR: sc-44533-PR (20 μ l, 432 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.