

# galectin-2 siRNA (h): sc-44532

## BACKGROUND

Galectins are a family of soluble  $\beta$ -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- $\alpha$  (LTA) with possible implications in risk of myocardial infarction.

## REFERENCES

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2. Hirabayashi, J., et al. 1989. Cloning and nucleotide sequence of a full-length cDNA for human 14 kDa  $\beta$ -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- $\alpha$  secretion *in vitro*. *Nature* 429: 72-75.

## CHROMOSOMAL LOCATION

Genetic locus: LGALS2 (human) mapping to 22q13.1.

## PRODUCT

galectin-2 siRNA (h) 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see galectin-2 shRNA Plasmid (h): sc-44532-SH and galectin-2 shRNA (h) Lentiviral Particles: sc-44532-V as alternate gene silencing products.

For independent verification of galectin-2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-44532A, sc-44532B and sc-44532C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

galectin-2 siRNA (h) is recommended for the inhibition of galectin-2 expression in human 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  $\mu$ M in 66  $\mu$ 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

galectin-2 (C6): sc-517450 is recommended as a control antibody for monitoring of galectin-2 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor galectin-2 gene expression knockdown using RT-PCR Primer: galectin-2 (h)-PR: sc-44532-PR (20  $\mu$ l, 433 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](http://www.scbt.com) for detailed protocols and support products.