SANTA CRUZ BIOTECHNOLOGY, INC.

galectin-12 siRNA (m): sc-62363

BACKGROUND

Galectin-12, also designated galectin-related inhibitor of proliferation 1 in mouse, is a 314 amino acid protein encoded by the human gene LGALS12. Galectin-12 is a member of the galectin family consisting of β-galactoside-binding proteins with conserved carbohydrate recognition domains. Galectin-12 binds lactose and may participate in the apoptosis of adipocytes. This protein is preferentially expressed in peripheral blood leukocytes and adipocytes. Galectin-12 is induced by cell cycle block at the G_1 phase and causes G_1 arrest when overexpressed. The galectin-12 gene is expressed in mouse preadipocytes and is upregulated when preadipocytes undergo cell cycle arrest, concomitant with acquisition of the competence to undergo differentiation in response to adipogenic hormone stimulation. Galectin-12 is an adipocyte-expressed protein which is downregulated by various Insulin resistance-inducing hormones. As a result, galectin-12 may play a role in the pathogenesis of Insulin resistance.

REFERENCES

1. Yang, R.Y., et al. 2001. Cell cycle regulation by galectin-12, a new member of the galectin superfamily. J. Biol. Chem. 276: 20252-20260.
2. Hotta, K., et al. 2001. Galectin-12, an adipose-expressed galectin-like molecule possessing apoptosis-inducing activity. J. Biol. Chem. 276: 34089-34097.
3. Cooper, D.N. 2002. Galectinomics: finding themes in complexity. Biochim. Biophys. Acta 1572: 209-231.
4. Liu, F.T., et al. 2002. Intracellular functions of galectins. Biochim. Biophys. Acta 1572: 263-273.
5. Fasshauer, M., et al. 2002. Negative regulation of adipose-expressed galectin-12 by isoproterenol, tumor necrosis factor α, Insulin and dexamethasone. Eur. J. Endocrinol. 147: 553-559.
6. Yang, R.Y. and Liu, F.T. 2003. Galectins in cell growth and apoptosis. Cell. Mol. Life Sci. 60: 267-276.
7. Yang, R.Y., et al. 2004. Galectin-12 is required for adipogenic signaling and adipocyte differentiation. J. Biol. Chem. 279: 29761-29766.

CHROMOSOMAL LOCATION

Genetic locus: Lgals12 (mouse) mapping to 19 A.

PRODUCT

galectin-12 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-12 shRNA Plasmid (m): sc-62363-SH and galectin-12 shRNA (m) Lentiviral Particles: sc-62363-V as alternate gene silencing products.

For independent verification of galectin-12 (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-62363A, sc-62363B and sc-62363C.

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-12 siRNA (m) is recommended for the inhibition of galectin-12 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor galectin-12 gene expression knockdown using RT-PCR Primer: galectin-12 (m)-PR: sc-62363-PR (20 µl). 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.