SANTA CRUZ BIOTECHNOLOGY, INC.

galectin-10 siRNA (h): sc-72087

BACKGROUND

Charcot-Leyden crystals are endogenous hexagonal bipyramidal crystals present in human tissues and secretions. Presence of Charcot-Leyden crystals correlates with the increased numbers of peripheral blood or tissue eosinophils that occurs with parasitic and allergic processes. Galectin-10, also referred to as Charcot-Leyden crystal (CLC) protein, singularly makes up these crystals. Galectin-10, a member of the galectin family of β-Galactoside binding proteins that bind to S-type animal lectins, is expressed solely in eosinophilic and basophilic leukocytes. Galectin-10 may possess carbohydrate or IgE-binding activities, and it plays a functional role in the biology of inflammation. Expression of galectin-10 is transcriptionally induced by butyric acid.

REFERENCES

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2. Weller, P.F., et al. 1982. Human eosinophil lysophospholipase: the sole protein component of Charcot-Leyden crystals. J. Immunol. 128: 1346-1349.
3. Calafat, J., et al. 1997. Ultrastructural localization of Charcot-Leyden crystal protein in human eosinophils and basophils. Eur. J. Haematol. 58: 56-66.
4. Dvorak, A.M., et al. 1997. Localization of Charcot-Leyden crystal protein phenotypes of human basophils stimulated by f-Met peptide. Clin. Exp. Allergy 27: 452-474.
5. Dyer, K.D., et al. 1997. The genomic structure of the human Charcot-Leyden crystal protein gene is analogous to those of the galectin genes. Genomics 40: 217-221.
6. Swaminathan, G.J., et al. 1999. Selective recognition of mannose by the human eosinophil Charcot-Leyden crystal protein (galectin-10): a crystallographic study at 1.8 A resolution. Biochemistry 38: 13837-13843.
7. Dyer, K.D., et al. 2001. Transcriptional regulation of galectin-10 (eosinophil Charcot-Leyden crystal protein): a GC box (-44 to -50) controls butyric acid induction of gene expression. Life Sci. 69: 201-212.

CHROMOSOMAL LOCATION

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

PRODUCT

galectin-10 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see galectin-10 shRNA Plasmid (h): sc-72087-SH and galectin-10 shRNA (h) Lentiviral Particles: sc-72087-V as alternate gene silencing products.

For independent verification of galectin-10 (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-72087A, sc-72087B and sc-72087C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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-10 siRNA (h) is recommended for the inhibition of galectin-10 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 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-10 (D-8): sc-374395 is recommended as a control antibody for monitoring of galectin-10 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-10 gene expression knockdown using RT-PCR Primer: galectin-10 (h)-PR: sc-72087-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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