SANTA CRUZ BIOTECHNOLOGY, INC.

FLRG siRNA (h): sc-39760

BACKGROUND

A t(11;19)(q13;p13) translocation observed in a case of B-cell chronic lymphocytic leukemia led to the juxtaposition of the CCND1 gene on chromosome 11 to a new transcriptional unit on chromosome 19, FLRG. FLRG (follistatin-related gene, follistatin-like-3 or FSTL3) is a member of the follistatin-module protein family, which is composed of extracellular matrix-associated glycoproteins thought to act in a paracrine manner to bind morphogens or growth/differentiation factors and regulate their activity during development. The FSTL3 protein contains two potential N-glycosylation sites and the predicted mass of the unmodified core protein is 27 kDa. FLRG is expressed in a wide range of human and murine adult tissues and its expression seems to be tightly regulated during murine embryogenesis. Immunohistochemistry reveals the presence of FLRG in the basement membrane between the dermis and the epidermis and around blood vessels.

REFERENCES

1. Rimokh, R., et al. 1993. Rearrangement and overexpression of the BCL-1/PRAD-1 gene in intermediate lymphocytic lymphomas and in t(11q13)-bearing leukemias. Blood 81: 3063-3067.
2. Hayette, S., et al. 1998. FLRG (follistatin-related gene), a new target of chromosomal rearrangement in malignant blood disorders. Oncogene 16: 2949-2954.
3. Tsuchida, K., et al. 2000. Identification and characterization of a novel follistatin-like protein as a binding protein for the TGFβ family. J. Biol. Chem. 275: 40788-40796.
4. Tsuchida, K., et al. 2001. Intracellular and extracellular control of activin function by novel regulatory molecules. Mol. Cell. Endocrinol. 180: 25-31.
5. Bartholin, L., et al. 2001. FLRG, an activin-binding protein, is a new target of TGFβ transcription activation through Smad proteins. Oncogene 20: 5409-5419.
6. Maguer-Satta, V., et al. 2001. Expression of FLRG, a novel activin A ligand, is regulated by TGF-β and during hematopoiesis. Exp. Hematol. 29: 301-308.
7. Wankell, M., et al. 2001. The activin binding proteinsfollistatin and follistatin-related protein are differentially regulated *in vitro* and during cutaneous wound repair. J. Endocrinol. 171: 385-395.

CHROMOSOMAL LOCATION

Genetic locus: FSTL3 (human) mapping to 19p13.3.

PRODUCT

FLRG 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 FLRG shRNA Plasmid (h): sc-39760-SH and FLRG shRNA (h) Lentiviral Particles: sc-39760-V as alternate gene silencing products.

For independent verification of FLRG (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-39760A, sc-39760B and sc-39760C.

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

FLRG siRNA (h) is recommended for the inhibition of FLRG 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor FLRG gene expression knockdown using RT-PCR Primer: FLRG (h)-PR: sc-39760-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Tsou, P.S., et al. 2016. Histone deacetylase 5 is overexpressed in scleroderma endothelial cells and impairs angiogenesis via repression of proangiogenic factors. Arthritis Rheumatol. 68: 2975-2985.

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.