SANTA CRUZ BIOTECHNOLOGY, INC.

GIOT-1 siRNA (h): sc-75130

BACKGROUND

GIOT-1 (Gonadotropin-inducible transcription repressor 1), also known as ZNF 461 (zinc finger protein 461) is a 563 amino acid protein belonging to the Krüppel C_2H_2-type zinc-finger protein family. Localized to the nucleus, GIOT-1 is widely expressed in tissues, with highest levels in liver, kidney, small intestine, pancreas and thymus. GIOT-1 contains 12 C_2H_2-type zinc fincers and one KRAB domain. Because the KRAB domain functions as a transcriptional repressor when attached to the template DNA, GIOT-1 is thought to be involved in transcriptional regulation. The gene encoding GIOT-1 is localized to chromosome 19q13.12 and two isoforms of GIOT-1 exist as a result of alternative splicing events.

REFERENCES

1. Mizutani, T., et al. 2001. Cloning and characterization of Gonadotropin-inducible ovarian transcription factors (GIOT-1 and -2) that are novel members of the $(Cys)_2$-$(His)_2$-type zinc finger protein family. Mol. Endocrinol. 15: 1693-1705.
2. Dai, J., et al. 2003. Characterization of two novel KRAB-domain-containing zinc finger genes, ZNF460 and ZNF461, on human chromosome 19q13.1→q13.4. Cytogenet. Genome Res. 103: 74-78.
3. Yazawa, T., et al. 2003. Involvement of cyclic adenosine 5'-monophosphate response element-binding protein, steroidogenic factor 1, and Dax-1 in the regulation of Gonadotropin-inducible ovarian transcription factor 1 gene expression by follicle-stimulating hormone in ovarian granulosa cells. Endocrinology 144: 1920-1930.
4. Urrutia, R. 2003. KRAB-containing zinc-finger repressor proteins. Genome Biol. 4: 231.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608640. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Song, K.H., et al. 2006. Orphan nuclear receptor Nur77 induces zinc finger protein GIOT-1 gene expression, and GIOT-1 acts as a novel corepressor of orphan nuclear receptor SF-1 via recruitment of HDAC2. J. Biol. Chem. 281: 15605-15614.

CHROMOSOMAL LOCATION

Genetic locus: ZNF461 (human) mapping to 19q13.12.

PRODUCT

GIOT-1 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 GIOT-1 shRNA Plasmid (h): sc-75130-SH and GIOT-1 shRNA (h) Lentiviral Particles: sc-75130-V as alternate gene silencing products.

For independent verification of GIOT-1 (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-75130A, sc-75130B and sc-75130C.

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

GIOT-1 siRNA (h) is recommended for the inhibition of GIOT-1 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

GIOT-1 (C-12): sc-398187 is recommended as a control antibody for monitoring of GIOT-1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GIOT-1 gene expression knockdown using RT-PCR Primer: GIOT-1 (h)-PR: sc-75130-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.