SANTA CRUZ BIOTECHNOLOGY, INC.

RINZF siRNA (h): sc-77446

BACKGROUND

RINZF, also known as ZBTB10 (zinc finger and BTB domain containing protein 10), is a 847 amino acid protein that contains one BTB/POZ domain and two C_2H_2-type zinc fingers. Localized to the nucleus, RINZF is believed to play a role in transcriptional regulation. Specifically, RINZF is capable of binding to the CACC element of the Gastrin promoter. In this regard, RINZF competes with Sp1 for CACC binding and interferes with Sp1 transactivation, thereby regulating Gastrin gene expression. The rat RINZF protein shares 98% homology with the human RINZF protein, suggesting that RINZF is a conserved protein. Due to alternative splicing events, two RINZF isoforms exist. In addition, RINZF may be phosphorylated by ATR or ATM upon DNA damage.

REFERENCES

1. Wang, T.C. and Brand, S.J. 1990. Islet cell-specific regulatory domain in the Gastrin promoter contains adjacent positive and negative DNA elements. J. Biol. Chem. 265: 8908-8914.
2. Tillotson, L.G., Wang, T.C. and Brand, S.J. 1994. Activation of Gastrin transcription in pancreatic Insulinoma cells by a CACC promoter element and a 70 kDa sequence-specific DNA-binding protein. J. Biol. Chem. 269: 2234-2240.
3. Chung, D.C., Brand, S.J. and Tillotson, L.G. 1995. Mutually exclusive interactions between factors binding to adjacent Sp1 and AT-rich elements regulate Gastrin gene transcription in Insulinoma cells. J. Biol. Chem. 270: 8829-8836.
4. Tillotson, L.G. 1999. RINZF, a novel zinc finger gene, encodes proteins that bind to the CACC element of the gastrin promoter. J. Biol. Chem. 274: 8123-8128.
5. Ishizuka, M., Ohshima, H., Tamura, N., Nakada, T., Inoue, A., Hirose, S. and Hagiwara, H. 2003. Molecular cloning and characteristics of a novel zinc finger protein and its splice variant whose transcripts are expressed during spermatogenesis. Biochem. Biophys. Res. Commun. 301: 1079-1085.
6. Samuel, S. and Bernstein, L.R. 2004. Adhesion, migration, transcriptional, interferon-inducible, and other signaling molecules newly implicated in cancer susceptibility and resistance of JB6 cells by cDNA microarray analyses. Mol. Carcinog. 39: 34-60.

CHROMOSOMAL LOCATION

Genetic locus: ZBTB10 (human) mapping to 8q21.13.

PRODUCT

RINZF 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 RINZF shRNA Plasmid (h): sc-77446-SH and RINZF shRNA (h) Lentiviral Particles: sc-77446-V as alternate gene silencing products.

For independent verification of RINZF (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-77446A, sc-77446B and sc-77446C.

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

RINZF siRNA (h) is recommended for the inhibition of RINZF 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 RINZF gene expression knockdown using RT-PCR Primer: RINZF (h)-PR: sc-77446-PR (20 µl, 496 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 for detailed protocols and support products.