SANTA CRUZ BIOTECHNOLOGY, INC.

RN-tre siRNA (h): sc-90766

BACKGROUND

GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. RN-tre (related to the N-terminus of tre), also known as USP6NL (USP6 N-terminal like) or TRE2NL, is an 828 amino acid protein that contains one Rab-GAP TBC domain. Expressed in a wide variety of tissues, RN-tre functions as a GTPase-activating protein for Rab 5A and is thought to be involved in receptor trafficking, as well as in the inhibition of EGFR internalization. In response to DNA damage, RN-tre may be phosphorylated by ATM or ATR. The gene encoding RN-tre maps to human chromosome 10p14, which houses over 1,200 genes and comprises nearly 4.5% of the human genome.

REFERENCES

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2. Matòsková, B., et al. 1996. RN-tre identifies a family of tre-related proteins displaying a novel potential protein binding domain. Oncogene 12: 2563-2571.
3. Matòsková, B., et al. 1996. RN-tre specifically binds to the SH3 domain of eps8 with high affinity and confers growth advantage to NIH3T3 upon carboxy-terminal truncation. Oncogene 12: 2679-2688.
4. Lanzetti, L., et al. 2000. The Eps8 protein coordinates EGF receptor signalling through Rac and trafficking through Rab5. Nature 408: 374-377.
5. Martinu, L., et al. 2002. Endocytosis of epidermal growth factor receptor regulated by Grb2-mediated recruitment of the Rab5 GTPase-activating protein RN-tre. J. Biol. Chem. 277: 50996-51002.
6. Lanzetti, L., et al. 2004. Rab 5 is a signalling GTPase involved in Actin remodelling by receptor tyrosine kinases. Nature 429: 309-314.
7. Lanzetti, L., et al. 2007. Regulation of the Rab 5 GTPase-activating protein RN-tre by the dual specificity phosphatase Cdc14A in human cells. J. Biol. Chem. 282: 15258-15270.

CHROMOSOMAL LOCATION

Genetic locus: USP6NL (human) mapping to 10p14.

PRODUCT

RN-tre 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 RN-tre shRNA Plasmid (h): sc-90766-SH and RN-tre shRNA (h) Lentiviral Particles: sc-90766-V as alternate gene silencing products.

For independent verification of RN-tre (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-90766A, sc-90766B and sc-90766C.

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

RN-tre siRNA (h) is recommended for the inhibition of RN-tre 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 RN-tre gene expression knockdown using RT-PCR Primer: RN-tre (h)-PR: sc-90766-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.