SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 20 siRNA (h): sc-76320

BACKGROUND

The Ras-related superfamily of guanine nucleotide binding proteins includes the R-Ras, Rap, Ral/Rec and Rho/Rab subfamilies all of which are thought to play an important role in either endocytosis or in biosynthetic protein transport. The process of transporting newly synthesized proteins from the endoplasmic reticulum (ER) to various stacks of the Golgi complex and to secretory vesicles involves the movement of carrier vesicles and requires Rab protein function. Rab proteins are also an integral part of endocytic pathways. Rab 20 (Ras-related protein Rab-20) is a 234 amino acid protein that localizes to the Golgi apparatus and belongs to the Rab subfamily of small GTPases. Expressed in normal and cancerous pancreatic tissue, Rab 20 plays an important role in apical endocytosis and recycling and may be involved in the development of exocrine pancreatic adenocarcinomas.

REFERENCES

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2. McMurtrie, E.B., et al. 1997. Genetic mapping of Rab20 on mouse chromosome 8. Mamm. Genome 8: 291-292.
3. Pereira-Leal, J.B., et al. 2000. The mammalian Rab family of small GTPases: definition of family and subfamily sequence motifs suggests a mechanism for functional specificity in the Ras superfamily. J. Mol. Biol. 301: 1077-1087.
4. Stenmark, H., et al. 2001. The Rab GTPase family. Genome Biol. 2: REVIEWS3007.
5. Pereira-Leal, J.B., et al. 2001. Evolution of the Rab family of small GTP-binding proteins. J. Mol. Biol. 313: 889-901.
6. Pfeffer, S.R. 2005. Structural clues to Rab GTPase functional diversity. J. Biol. Chem. 280: 15485-15488.
7. Amillet, J.M., et al. 2006. Characterization of human Rab20 overexpressed in exocrine pancreatic carcinoma. Hum. Pathol. 37: 256-263.

CHROMOSOMAL LOCATION

Genetic locus: RAB20 (human) mapping to 13q34.

PRODUCT

Rab 20 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 Rab 20 shRNA Plasmid (h): sc-76320-SH and Rab 20 shRNA (h) Lentiviral Particles: sc-76320-V as alternate gene silencing products.

For independent verification of Rab 20 (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-76320A, sc-76320B and sc-76320C.

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

Rab 20 siRNA (h) is recommended for the inhibition of Rab 20 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

Rab 20 (169E2W): sc-517618 is recommended as a control antibody for monitoring of Rab 20 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rab 20 gene expression knockdown using RT-PCR Primer: Rab 20 (h)-PR: sc-76320-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 for detailed protocols and support products.