SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 28 siRNA (h): sc-89156

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The Power to Question

BACKGROUND

Ras-related GTPases are GTP-dependent switches that operate signaling pathways in cell growth, metabolism and organelle trafficking. Rab 28, also known as MGC41862, is a 221 amino acid protein that belongs to the small GTPase superfamily and the Rab family. Rab 28 is only distantly related to other Rab family members, sharing 31 to 33% amino acid identity with Rab 1A, Rab 6, Rab 11 and Rab 13. Rab 28 is expressed as two isoforms, designated S and L respectively, that are produced by alternative splicing events. Isoform S is detected in most tissues including cortex, liver, kidney, skeletal muscle, adipose tissue, testis and urothelium, where as isoform L is predominantly expressed in testis. Existing as two alternatively spliced isoforms, the Rab 28 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and *C. elegans,* and maps to human chromosome 4p15.33. Pseudogenes of the Rab 28 gene are found on chromosomes 9 and X.

REFERENCES

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2. Pereira-Leal, J.B. and Seabra, M.C. 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.
3. Stenmark, H. and Olkkonen, V.M. 2001. The Rab GTPase family. Genome Biol. 2: REVIEWS3007.
4. Maurer-Stroh, S., Koranda, M., Benetka, W., Schneider, G., Sirota, F.L. and Eisenhaber, F. 2007. Towards complete sets of farnesylated and geranylgeranylated proteins. PLoS Comput. Biol. 3: e66.
5. Lee, S.H., Baek, K. and Dominguez, R. 2008. Large nucleotide-dependent conformational change in Rab28. FEBS Lett. 582: 4107-4111.
6. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612994. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: RAB28 (human) mapping to 4p15.33.

PRODUCT

Rab 28 siRNA (h) is a pool of 2 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 28 shRNA Plasmid (h): sc-89156-SH and Rab 28 shRNA (h) Lentiviral Particles: sc-89156-V as alternate gene silencing products.

For independent verification of Rab 28 (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-89156A and sc-89156B.

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 28 siRNA (h) is recommended for the inhibition of Rab 28 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 28 (2C6): sc-517146 is recommended as a control antibody for monitoring of Rab 28 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 Rab 28 gene expression knockdown using RT-PCR Primer: Rab 28 (h)-PR: sc-89156-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.