SANTA CRUZ BIOTECHNOLOGY, INC.

Rab 40C siRNA (h): sc-93437

BACKGROUND

Rab 40C is a 281 amino acid protein that belongs to the small GTPase superfamily and the Rab family. Rab 40C contains a SOCS box domain that mediates the interaction with the Elongin BC complex, an adapter module in different E3 ubiquitin ligase complexes. Rab 40C is a probable substrate-recognition component of a SCF-like ECS (Elongin-Cullin-SOCS-box protein) E3 ubiquitin ligase complex which mediates the ubiquitination and subsequent proteasomal degradation of target proteins. Involved in protein modification and ubiquitination, Rab 40C interacts with CUL-5, Rbx2, Elongin C and Elongin B. The Rab 40C gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, fruit fly and mosquito, and maps to human chromosome 16p13.3.

REFERENCES

1. Daniels, R.J., et al. 2001. Sequence, structure and pathology of the fully annotated terminal 2 Mb of the short arm of human chromosome 16. Hum. Mol. Genet. 10: 339-352.
2. Pereira-Leal, J.B., et al. 2001. Evolution of the Rab family of small GTP-binding proteins. J. Mol. Biol. 313: 889-901.
3. Kile, B.T., et al. 2002. The SOCS box: a tale of destruction and degradation. Trends Biochem. Sci. 27: 235-241.
4. Kamura, T., et al. 2004. VHL-box and SOCS-box domains determine binding specificity for Cul2-Rbx1 and Cul5-Rbx2 modules of ubiquitin ligases. Genes Dev. 18: 3055-3065.
5. Martin, J., et al. 2004. The sequence and analysis of duplication-rich human chromosome 16. Nature 432: 988-994.
6. Ng, E.L., et al. 2008. Rab GTPases and their roles in brain neurons and glia. Brain Res. Rev. 58: 236-246.

CHROMOSOMAL LOCATION

Genetic locus: RAB40C (human) mapping to 16p13.3.

PRODUCT

Rab 40C 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 40C shRNA Plasmid (h): sc-93437-SH and Rab 40C shRNA (h) Lentiviral Particles: sc-93437-V as alternate gene silencing products.

For independent verification of Rab 40C (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-93437A, sc-93437B and sc-93437C.

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.

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 40C siRNA (h) is recommended for the inhibition of Rab 40C 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 40C (H-8): sc-514826 is recommended as a control antibody for monitoring of Rab 40C 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 40C gene expression knockdown using RT-PCR Primer: Rab 40C (h)-PR: sc-93437-PR (20 µl, 392 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.