

Rap 2C siRNA (h): sc-106480

BACKGROUND

Ras oncogenes encode GTP-binding proteins that are capable of transforming immortalized cells in culture. Two Ras-related human genes, designated RAP1A and RAP1B, encode 95% homologous proteins (namely Rap 1A and Rap 1B) that share a similar C-terminal Cys-Ali-Ali-Xaa sequence with Ras proteins and are ubiquitously expressed in mammalian tissues. The putative "effector" domain of Ras proteins, whose integrity is required for cell transformation as well as interaction with the putative effector protein GAP, is conserved in both Rap 1 proteins. Rap 1A is thought to interfere with Ras effector function by binding to Ras GAP in a GTP-dependent manner without affecting Rap 1A GTPase activity. The Rap 2 proteins, designated Rap 2A, Rap 2B and Rap 2C, share similarity with Rap 1A and may be involved in gene regulation relating to cell growth, differentiation and apoptosis.

REFERENCES

1. Pizon, V., et al. 1988. Human cDNAs Rap 1 and Rap 2 homologous to the *Drosophila* gene Dras3 encode proteins closely related to ras in the "effector" region. *Oncogene* 3: 201-204.
2. Kitayama, H., et al. 1989. A Ras-related gene with transformation suppressor activity. *Cell* 56: 77-84.
3. Culine, S., et al. 1989. Expression of the Ras-related rap genes in human tumors. *Int. J. Cancer* 44: 990-994.
4. Frech, M., et al. 1990. Inhibition of GTPase activating protein stimulation of Ras-p21 GTPase by the Krev-1 gene product. *Science* 249: 169-171.
5. Beranger, F., et al. 1991. Post-translational processing and subcellular localization of the Ras-related Rap 2 protein. *Oncogene* 6: 1835-1842.
6. Jimenez, B., et al. 1991. Effects of the Ras-related Rap 2 protein on cellular proliferation. *Int. J. Cancer* 49: 471-479.
7. Paganini, S., et al. 2006. Identification and biochemical characterization of Rap2C, a new member of the Rap family of small GTP-binding proteins. *Biochimie* 88: 285-295.
8. Guo, Z., et al. 2007. Cloning and characterization of the human gene RAP2C, a novel member of Ras family, which activates transcriptional activities of SRE. *Mol. Biol. Rep.* 34: 137-144.

CHROMOSOMAL LOCATION

Genetic locus: RAP2C (human) mapping to Xq26.2.

PRODUCT

Rap 2C 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rap 2C shRNA Plasmid (h): sc-106480-SH and Rap 2C shRNA (h) Lentiviral Particles: sc-106480-V as alternate gene silencing products.

For independent verification of Rap 2C (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-106480A, sc-106480B and sc-106480C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Rap 2C siRNA (h) is recommended for the inhibition of Rap 2C 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 μ M in 66 μ l. 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

Rap 2A/B/C (C-2): sc-515711 is recommended as a control antibody for monitoring of Rap 2C 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Rap 2C gene expression knockdown using RT-PCR Primer: Rap 2C (h)-PR: sc-106480-PR (20 μ l). 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.