

RASSF7 siRNA (m): sc-152716

BACKGROUND

Activated Ras proteins may induce senescence, apoptosis and terminal differentiation, though they are often associated with stimulating growth and transformation. Members of the RASSF family contain a highly conserved Ras association domain (RaIGDS/AF-6 or RA) and function as Ras effectors/tumor suppressors. RASSF7 (Ras association domain-containing protein 7), also designated HRAS1-related cluster protein 1, is a 373 amino acid protein that localizes to the centrosome. RASSF7, RASSF8, RASSF9 and RASSF10 are four evolutionary conserved proteins that are collectively known as the N-terminal RASSF family. Expressed in skin, neural tube and eye, RASSF7 is believed to play an essential role in mitosis. Further supporting its mitotic role, knockdown of *Xenopus* RASSF7 has been shown to influence cell failure to form mitotic spindle and also cause nuclear breakdown and apoptosis. As a result of alternative splicing events, there are three characterized isoforms of RASSF7 that primarily differ in the C-terminus.

REFERENCES

1. Weitzel, J.N., et al. 1992. The HRAS1 gene cluster: two upstream regions recognizing transcripts and a third encoding a gene with a leucine zipper domain. *Genomics* 14: 309-319.
2. Weitzel, J.N. and Patel, J. 1994. A single P1 clone bearing three genes from human chromosome 11p15.5: HRC1, HRAS1, and RNH. *Genet. Anal. Tech. Appl.* 11: 165-170.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 143023. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Song, M.S., et al. 2005. The centrosomal protein Ras association domain family protein 1A (RASSF1A)-binding protein 1 regulates mitotic progression by recruiting RASSF1A to spindle poles. *J. Biol. Chem.* 280: 3920-3927.
5. van der Weyden, L. and Adams, D.J. 2007. The Ras-association domain family (RASSF) members and their role in human tumorigenesis. *Biochim. Biophys. Acta* 1776: 58-85.
6. Sherwood, V., et al. 2008. RASSF7 is a member of a new family of Ras association domain-containing proteins and is required for completing mitosis. *Mol. Biol. Cell* 19: 1772-1782.

CHROMOSOMAL LOCATION

Genetic locus: *Rassf7* (mouse) mapping to 7 F5.

PRODUCT

RASSF7 siRNA (m) 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 RASSF7 shRNA Plasmid (m): sc-152716-SH and RASSF7 shRNA (m) Lentiviral Particles: sc-152716-V as alternate gene silencing products.

For independent verification of RASSF7 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152716A, sc-152716B and sc-152716C.

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

RASSF7 siRNA (m) is recommended for the inhibition of RASSF7 expression in mouse 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

RASSF7 (C-6): sc-374431 is recommended as a control antibody for monitoring of RASSF7 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 RASSF7 gene expression knockdown using RT-PCR Primer: RASSF7 (m)-PR: sc-152716-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.