

p140Cap siRNA (m): sc-151956

BACKGROUND

p140Cap, also known as P140, KIAA1684 or SNIP (SNAP25-interacting protein), is a 1,055 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and exists as multiple alternatively spliced isoforms. Interacting with the N-terminal region of SNAP 25, p140Cap functions to delay the onset of cell spreading during the early stages of cell adhesion and may also be involved in calcium-dependent exocytosis from specific cell types. The gene encoding p140Cap maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

REFERENCES

1. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XIX. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 347-355.
2. Chin, L.S., et al. 2000. SNIP, a novel SNAP-25-interacting protein implicated in regulated exocytosis. J. Biol. Chem. 275: 1191-1200.
3. Graham, M.E., et al. 2002. Molecular analysis of SNAP-25 function in exocytosis. Ann. N.Y. Acad. Sci. 971: 210-221.
4. Di Stefano, P., et al. 2004. p130Cas-associated protein (p140Cap) as a new tyrosine-phosphorylated protein involved in cell spreading. Mol. Biol. Cell. 15: 787-800.
5. Di Stefano, P., et al. 2007. p140Cap protein suppresses tumour cell properties, regulating Csk and Src kinase activity. EMBO J. 26: 2843-2855.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610786. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Kennedy, S., et al. 2008. SNIP/p140Cap mRNA expression is an unfavourable prognostic factor in breast cancer and is not expressed in normal breast tissue. Br. J. Cancer 98: 1641-1645.

CHROMOSOMAL LOCATION

Genetic locus: Scrin1 (mouse) mapping to 11 D.

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.

PRODUCT

p140Cap 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 p140Cap shRNA Plasmid (m): sc-151956-SH and p140Cap shRNA (m) Lentiviral Particles: sc-151956-V as alternate gene silencing products.

For independent verification of p140Cap (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-151956A, sc-151956B and sc-151956C.

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

p140Cap siRNA (m) is recommended for the inhibition of p140Cap 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor p140Cap gene expression knockdown using RT-PCR Primer: p140Cap (m)-PR: sc-151956-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.