

StARD8 siRNA (h): sc-63080

BACKGROUND

The StARD (steroidogenic acute regulatory protein-related lipid transfer (START) domain containing) family of proteins is comprised of fifteen different members. All members contain the characteristic START domain and are believed to play key roles in the metabolism and transport of lipids. The StARD proteins are grouped into six subfamilies based on their START domain sequences. StARD8, StARD12 and StARD13 constitute one subfamily, namely the RhoGAP START group. StARD8, also known as DLC3 (deleted in liver cancer protein 3) or STARTGAP3, is a RhoGAP protein specific for Rho A and Cdc42. Localizing to focal adhesions, StARD8 contains one RhoGAP domain, one SAM (sterile α motif) domain and one START domain. Overexpression of StARD8 in various cancer cell lines represses cell proliferation and colony formation, implying that StARD8 acts as a tumor suppressor and plays a role in the regulation of cell growth.

REFERENCES

1. Katoh, M. 2004. Characterization of human ARHGAP10 gene in silico. *Int. J. Oncol.* 25: 1201-1206.
2. Sjöblom, T., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. *Science* 314: 268-274.
3. Ullmannova, V. and Popescu, N.C. 2006. Expression profile of the tumor suppressor genes DLC-1 and DLC-2 in solid tumors. *Int. J. Oncol.* 29: 1127-1132.
4. Ng, D.C., et al. 2006. Mitochondrial targeting of growth suppressor protein DLC-2 through the START domain. *FEBS Lett.* 580: 191-198.
5. Durkin, M.E., et al. 2007. Deleted in liver cancer 3 (DLC3), a novel Rho GTPase-activating protein, is downregulated in cancer and inhibits tumor cell growth. *Oncogene* 26: 4580-4589.
6. Kawai, K., et al. 2007. START-GAP3/DLC3 is a GAP for RhoA and Cdc42 and is localized in focal adhesions regulating cell morphology. *Biochem. Biophys. Res. Commun.* 364: 783-789.

CHROMOSOMAL LOCATION

Genetic locus: STARD8 (human) mapping to Xq13.1.

PRODUCT

StARD8 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 StARD8 shRNA Plasmid (h): sc-63080-SH and StARD8 shRNA (h) Lentiviral Particles: sc-63080-V as alternate gene silencing products.

For independent verification of StARD8 (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-63080A, sc-63080B and sc-63080C.

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 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

StARD8 siRNA (h) is recommended for the inhibition of StARD8 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

StARD8 (E-2): sc-166725 is recommended as a control antibody for monitoring of StARD8 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 StARD8 gene expression knockdown using RT-PCR Primer: StARD8 (h)-PR: sc-63080-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.