SANTA CRUZ BIOTECHNOLOGY, INC.

SH2D4A siRNA (h): sc-77685

BACKGROUND

SH2D4A (SH2 domain containing protein 4A), also known as SH2A, is a ubiquitously expressed 454 amino acid docking protein that belongs to the SH2 signaling protein family. Members of this family typically participate in intracellular signaling. Localizing to the cytoplasm, SH2D4A contains one Src homology 2 (SH2) domain. SH2 domains bind to tyrosine-phosphorylated regions of target proteins, frequently linking activated growth factors to putative signal transduction proteins. This suggests that SH2D4A, via its SH2 domain, may play an important function in cellular signal transduction. More specifically, SH2D4A is believed to function as an inhibiting factor in PKC signal transduction. In addition, SH2D4A exhibits abnormal expression in various cancers, implying that it may be involved in tumorigenesis.

REFERENCES

1. Dai, S., Zhao, Y. and Ding, Q. 2002. A novel member of SH2 signaling protein family: cloning and characterization of SH2A gene. Zhonghua Yi Xue Yi Chuan Xue Za Zhi 19: 458-462.
2. Ding, Q., Zhao, Y.Y., Sun, Z.J. and Yu, D.H. 2003. Effect of SH2A gene in cell signal transduction and its subcellular locolization. Zhonghua Yi Xue Yi Chuan Xue Za Zhi 20: 499-503.
3. Patrakka, J., Xiao, Z., Nukui, M., Takemoto, M., He, L., Oddsson, A., Perisic, L., Kaukinen, A., Szigyarto, C.A., Uhlen, M., Jalanko, H., Betsholtz, C. and Tryggvason, K. 2007. Expression and subcellular distribution of novel glomerulus-associated proteins dendrin, ehd3, sh2d4a, plekhh2, and 2310066E14Rik. J. Am. Soc. Nephrol. 18: 689-697.
4. Jiang, X., Roth, L., Han, S. and Li, X. 2008. SH2 domain-based tyrosine phosphorylation array. Methods Mol. Biol. 441: 153-161.

CHROMOSOMAL LOCATION

Genetic locus: SH2D4A (human) mapping to 8p21.3.

PRODUCT

SH2D4A 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 SH2D4A shRNA Plasmid (h): sc-77685-SH and SH2D4A shRNA (h) Lentiviral Particles: sc-77685-V as alternate gene silencing products.

For independent verification of SH2D4A (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-77685A, sc-77685B and sc-77685C.

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

SH2D4A siRNA (h) is recommended for the inhibition of SH2D4A 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

SH2D4A (F-5): sc-514170 is recommended as a control antibody for monitoring of SH2D4A 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 SH2D4A gene expression knockdown using RT-PCR Primer: SH2D4A (h)-PR: sc-77685-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.