SANTA CRUZ BIOTECHNOLOGY, INC.

JFC1 siRNA (h): sc-40717

BACKGROUND

Synaptotagmins, rabphilin-3A and DOC2 belong to a family of C-terminal type (C-type) tandem C2 proteins and are involved in vesicular trafficking. JFC1, also designated Slp1 (for synaptotagmin-like protein), belongs to a unique family of C-type tandem C2 proteins designated Slp. JFC1 contains two N-terminal Slp homology domains (SHD), which each comprise two conserved α-helical regions, designated SHD1 and SHD2. SHD1 and SHD2 specifically and directly bind the GTP-bound form of Rab 27a. JFC1 also binds phospha-tidylinositol 3,4,5-triphosphate-binding ATPase. JFC1 is transcriptionally act-ivated by NFκB and upregulated by TNFα in prostate carcinoma cells. JFC1 associates with the plasma membrane.

REFERENCES

1. Fukuda, M., et al. 2001. Synaptotagmin-like protein 1-3: a novel family of C-terminal-type tandem C2 proteins. Biochem. Biophys. Res. Commun. 281: 1226-1233.
2. Fukuda, M., et al. 2001. Novel splicing isoforms of synaptotagmin-like proteins 2 and 3: identification of the Slp homology domain. Biochem. Biophys. Res. Commun. 283: 513-519.
3. McAdara Berkowitz, J.K., et al. 2001. JFC1, a novel tandem C2 domain-containing protein associated with the leukocyte NADPH oxidase. J. Biol. Chem. 276: 18855-18862.
4. Kuroda, T.S., et al. 2002. The Slp homology domain of synaptotagmin-like proteins 1-4 and Slac2 functions as a novel Rab27A binding domain. J. Biol. Chem. 277: 9212-9218.
5. Strom, M., et al. 2002. A family of Rab27-binding proteins. Melanophilin links Rab27a and myosin Va function in melanosome transport. J. Biol. Chem. 277: 25423-25430.
6. Fukuda, M., et al. 2002. Synaptotagmin-like protein homologue lacking C2 domains-c (Slac2-c), a novel linker protein that interacts with Rab27, myosin Va/VIIa, and actin. J. Biol. Chem. 277: 43096-43103.
7. Catz, S.D., et al. 2002. JFC1 is transcriptionally activated by nuclear factor κB and up-regulated by tumor necrosis factor α in prostate carcinoma cells. Biochem. J. 367: 791-799.

CHROMOSOMAL LOCATION

Genetic locus: SYTL1 (human) mapping to 1p36.11.

PRODUCT

JFC1 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 JFC1 shRNA Plasmid (h): sc-40717-SH and JFC1 shRNA (h) Lentiviral Particles: sc-40717-V as alternate gene silencing products.

For independent verification of JFC1 (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-40717A, sc-40717B and sc-40717C.

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

JFC1 siRNA (h) is recommended for the inhibition of JFC1 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

JFC1 (E-8): sc-365933 is recommended as a control antibody for monitoring of JFC1 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 JFC1 gene expression knockdown using RT-PCR Primer: JFC1 (h)-PR: sc-40717-PR (20 µl). 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.