

Tiam2 siRNA (h): sc-41736

BACKGROUND

A gene designated Tiam1 was originally identified as an invasion-inducing gene by proviral tagging in combination with *in vitro* selection for invasiveness. The noninvasive cells were made invasive by transfection of truncated Tiam1 cDNAs into the noninvasive cells. The predicted Tiam1 protein exhibits both Dbl and Pleckstrin-homologous domains. In fibroblasts, Tiam1 induces a phenotype similar to that of constitutively activated (V12) Rac1, including membrane ruffling, which is inhibited by dominant negative (N17) Rac1. T cell lymphoma invasion and metastasis 2 (Tiam2) is expressed as a 3.3 kb transcript in the cerebrum and as a 4.4 kb transcript in the cerebellum and testis. The 4.4 kb message encodes a longer form of the 3.3 kb mRNA predicted protein, and both contain homology to the Dbl-homologous region and Pleckstrin-homologous regions of Tiam1. Purified Tiam2 shows GDP-GTP exchange activity.

REFERENCES

1. Hart, M.J., et al. 1991. Catalysis of guanine nucleotide exchange on the Cdc42Hs protein by the Dbl oncogene product. *Nature* 354: 311-314.
2. Habets, G.G.M., et al. 1994. Identification of an invasion-inducing gene, Tiam1, that encodes a protein with homology to GDP-GTP exchangers for Rho-like proteins. *Cell* 77: 537-549.
3. Zheng, Y., et al. 1994. Control of the yeast bud-site assembly GTPase Cdc42. Catalysis of guanine nucleotide exchange by Cdc24 and stimulation of GTPase activity by Bem3. *J. Biol. Chem.* 269: 2369-2372.
4. Horii, Y., et al. 1994. A novel oncogene, ost, encodes a guanine nucleotide exchange factor that potentially links Rho and Rac signaling pathways. *EMBO J.* 13: 4776-4786.
5. Michiels, F., et al. 1995. A role for Rac in Tiam1-induced membrane ruffling and invasion. *Nature* 375: 338.
6. Chiu, C.Y., et al. 1999. Cloning and characterization of T-cell lymphoma invasion and metastasis 2 (Tiam2), a novel guanine nucleotide exchange factor related to Tiam1. *Genomics* 61: 66-73.

CHROMOSOMAL LOCATION

Genetic locus: TIAM2 (human) mapping to 6q25.2.

PRODUCT

Tiam2 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 Tiam2 shRNA Plasmid (h): sc-41736-SH and Tiam2 shRNA (h) Lentiviral Particles: sc-41736-V as alternate gene silencing products.

For independent verification of Tiam2 (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-41736A, sc-41736B and sc-41736C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

Tiam2 siRNA (h) is recommended for the inhibition of Tiam2 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

Tiam2 (C-5): sc-514090 is recommended as a control antibody for monitoring of Tiam2 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 Tiam2 gene expression knockdown using RT-PCR Primer: Tiam2 (h)-PR: sc-41736-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.