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TBRG1 siRNA (m): sc-154124

BACKGROUND

TBRG1 (transforming growth factor β regulator 1), also known as TB-5 or NIAM, is a 411 amino acid protein that localizes to the nucleus and contains one FY-rich C-terminal domain and one FY-rich N-terminal domain. Expressed in a variety of tissues, including liver, lung and pancreas, TBRG1 functions as a growth inhibitor that interacts with p14 ARF and MDM2 and is involved in maintaining chromosome stability. Additionally, TBRG1 can activate p53 function, thereby causing cell-cycle arrest and effectively restricting cell proliferation. TBRG1 expression is downregulated in breast, pancreas and kidney tumors, suggesting that TBRG1 participates in tumor suppression. TBRG1 exists as multiple alternatively spliced isoforms and is subject to MDM2-mediated ubiquitination and subsequent proteasomal degradation.

REFERENCES

1. Babalola, G.O. and Schultz, R.M. 1995. Modulation of gene expression in the preimplantation mouse embryo by TGF- α and TGF- β . *Mol. Reprod. Dev.* 41: 133-139.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610614. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Tompkins, V., Hagen, J., Zediak, V.P. and Quelle, D.E. 2006. Identification of novel ARF binding proteins by two-hybrid screening. *Cell Cycle* 5: 641-646.
4. Tompkins, V.S., Hagen, J., Frazier, A.A., Lushnikova, T., Fitzgerald, M.P., di Tommaso, A., Ladeveze, V., Domann, F.E., Eischen, C.M. and Quelle, D.E. 2007. A novel nuclear interactor of ARF and MDM2 (NIAM) that maintains chromosomal stability. *J. Biol. Chem.* 282: 1322-1333.
5. Hagen, J., Tompkins, V., Dudakovic, A., Weydert, J.A. and Quelle, D.E. 2008. Generation and characterization of monoclonal antibodies to NIAM: a nuclear interactor of ARF and Mdm2. *Hybridoma* 27: 159-166.

CHROMOSOMAL LOCATION

Genetic locus: Tbrg1 (mouse) mapping to 9 A4.

PRODUCT

TBRG1 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 TBRG1 shRNA Plasmid (m): sc-154124-SH and TBRG1 shRNA (m) Lentiviral Particles: sc-154124-V as alternate gene silencing products.

For independent verification of TBRG1 (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-154124A, sc-154124B and sc-154124C.

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

TBRG1 siRNA (m) is recommended for the inhibition of TBRG1 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.

GENE EXPRESSION MONITORING

TBRG1 (D-9): sc-515620 is recommended as a control antibody for monitoring of TBRG1 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 TBRG1 gene expression knockdown using RT-PCR Primer: TBRG1 (m)-PR: sc-154124-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.