

tsg 101 siRNA (m): sc-36753

BACKGROUND

The transformation of a normal cell to one that is malignant can result from mutations in genes that encode proteins with key regulatory functions. Examples include the retinoblastoma gene product (Rb p110), p53, VHL and APC. Using a novel cloning strategy that allows the isolation of previously uncharacterized genes encoding selectable recessive phenotypes, an additional tumor suppressor gene has been identified. This gene, termed tsg 101 for tumor susceptibility gene 101, encodes a stathmin binding domain protein. When expression of this growth inhibitory gene is blocked in NIH/3T3 cells using antisense mRNA, the cells exhibit a transformed phenotype and are tumorigenic in SL6 mice.

REFERENCES

1. Horowitz, J.M., et al. 1990. Frequent inactivation of the retinoblastoma anti-oncogene is restricted to a subset of human tumor cells. *Proc. Natl. Acad. Sci. USA* 87: 2775-2779.
2. Kern, S.E., et al. 1992. Oncogenic forms of p53 inhibit p53-regulated gene expression. *Science* 256: 827-830.
3. Chop, A.M., et al. 1995. Immunodetection of the presence or absence of full-length APC gene product in human colonic tissues. *Anticancer Res.* 15: 991-997.
4. Waber, P.G., et al. 1996. Frequent allelic loss at chromosome arm 3p is distinct from genetic alterations of the von Hippel-Lindau tumor suppressor gene in head and neck cancer. *Oncogene* 12: 365-369.

CHROMOSOMAL LOCATION

Genetic locus: Tsg101 (mouse) mapping to 7 B4.

PRODUCT

tsg 101 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 tsg 101 shRNA Plasmid (m): sc-36753-SH and tsg 101 shRNA (m) Lentiviral Particles: sc-36753-V as alternate gene silencing products.

For independent verification of tsg 101 (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-36753A, sc-36753B and sc-36753C.

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

tsg 101 siRNA (m) is recommended for the inhibition of tsg 101 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

tsg 101 (C-2): sc-7964 is recommended as a control antibody for monitoring of tsg 101 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 tsg 101 gene expression knockdown using RT-PCR Primer: tsg 101 (m)-PR: sc-36753-PR (20 μ l, 418 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Yan, C., et al. 2021. A high-fat diet attenuates AMP-activated protein kinase α 1 in adipocytes to induce exosome shedding and nonalcoholic fatty liver development *in vivo*. *Diabetes* 70: 577-588.

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.