

RNF167 siRNA (m): sc-153023

BACKGROUND

The RING-type zinc-finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in protein-protein interactions and protein-DNA interactions. RNF167 (RING-finger protein 167), also known as RING105, contains one RING-type zinc-finger domain and one protease associated (PA) domain. RNF167 is a single-pass membrane protein localized to the endomembrane system of cytoplasmic membranes. Strongly expressed in kidney and liver, RNF167 may act as an E3 ubiquitin-protein ligase or as part of the E3 complex, which accepts ubiquitin from specific E2 enzymes and transfers it to substrates, such as ORCTL2. RNF167 may also be involved in growth regulation during G₁/S transition.

REFERENCES

1. Wan, D., et al. 2004. Large-scale cDNA transfection screening for genes related to cancer development and progression. *Proc. Natl. Acad. Sci. USA* 101: 15724-15729.
2. Kotoshiba, S., et al. 2005. Molecular dissection of the interaction between p27 and Kip1 ubiquitylation-promoting complex, the ubiquitin ligase that regulates proteolysis of p27 in G₁ phase. *J. Biol. Chem.* 280: 17694-17700.
3. Yamada, H.Y., et al. 2006. Tumor suppressor candidate TSSC5 is regulated by UBC6 and a novel ubiquitin ligase RING105. *Oncogene* 25: 1330-1339.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610431. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Nakakuki, M., et al. 2007. A transcription factor of lipid synthesis, sterol regulatory element-binding protein (SREBP)-1a causes G₁ cell-cycle arrest after accumulation of cyclin-dependent kinase (Cdk) inhibitors. *FEBS J.* 274: 4440-4452.
6. Lee, J.G., et al. 2008. Involvement of two distinct ubiquitin E3 ligase systems for p27 degradation in corneal endothelial cells. *Invest. Ophthalmol. Vis. Sci.* 49: 189-196.

CHROMOSOMAL LOCATION

Genetic locus: Rnf167 (mouse) mapping to 11 B3.

PRODUCT

RNF167 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 RNF167 shRNA Plasmid (m): sc-153023-SH and RNF167 shRNA (m) Lentiviral Particles: sc-153023-V as alternate gene silencing products.

For independent verification of RNF167 (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-153023A, sc-153023B and sc-153023C.

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

RNF167 siRNA (m) is recommended for the inhibition of RNF167 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

RNF167 (E-9): sc-515405 is recommended as a control antibody for monitoring of RNF167 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 RNF167 gene expression knockdown using RT-PCR Primer: RNF167 (m)-PR: sc-153023-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.

PROTOCOLS

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