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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

MOB1A siRNA (m): sc-149490

BACKGROUND

Sterile-20 (Ste20) is a serine/threonine kinase in Saccharomyces cerevisiae that is involved in relaying signals from G protein-coupled receptors to cytosolic MAP kinase cascades. The mammalian homologs MST1 and MST2, also designated Krs-2 and Krs-1, respectively, are major regulators of cell proliferation and survival during development. MST1/MST2 phosphorylize MOBKL1A and MOBKL1B in an MST1/MST2-dependent manner in mitosis and in response to okadaic acid or H2O2. MOBKL1A and MOBKL1B, also designated MOB1A and MOB1B, bind to and regulate downstream targets such as the NDR-family protein kinases and LATS1 kinase. Therefore, MOBKL1A and MOBKL1B participate in cell cycle checkpoint control and tumor inhibition.

REFERENCES

1. Leberer, E., et al. 1992. The protein kinase homologue Ste20p is required to link the yeast pheromone response G-protein β γ subunits to downstream signalling components. EMBO J. 11: 4815-4824.
2. Schinkmann, K., et al. 1997. Cloning and characterization of ahuman STE20-like protein kinase with unusual cofactor requirements. J. Biol. Chem. 272: 28695-28703.
3. Bichsel, S.J., et al. 2004. Mechanism of activation of NDR (nuclear Dbf2-related) protein kinase by the hMOB1 protein. J. Biol. Chem. 279: 35228-35235.
4. Bothos, J., et al. 2005. Human LATS1 is a mitotic exit network kinase. Cancer Res. 65: 6568-6575.
5. Hergovich, A., et al. 2005. Human NDR kinases are rapidly activated by MOB proteins through recruitment to the plasma membrane and phosphorylation. Mol. Cell. Biol. 25: 8259-8272.
6. Hergovich, A., et al. 2006. The human tumour suppressor LATS1 is activated by human MOB1 at the membrane. Biochem. Biophys. Res. Commun. 345: 50-58.
7. Sasaki, H., et al. 2007. Human MOB1 expression in non-small-cell lung cancer. Clin. Lung Cancer 8: 273-276.

CHROMOSOMAL LOCATION

Genetic locus: Mob1a (mouse) mapping to 6 C3.

PRODUCT

MOB1A 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MOB1A shRNA Plasmid (m): sc-149490-SH and MOB1A shRNA (m) Lentiviral Particles: sc-149490-V as alternate gene silencing products.

For independent verification of MOB1A (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-149490A, sc-149490B and sc-149490C.

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 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

MOB1A siRNA (m) is recommended for the inhibition of MOB1A 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 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

MOB1A (G-7): sc-393212 is recommended as a control antibody for monitoring of MOB1A 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 MOB1A gene expression knockdown using RT-PCR Primer: MOB1A (m)-PR: sc-149490-PR (20 µl). 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.