



# Rictor siRNA (m): sc-61479

## BACKGROUND

FRAP is a large protein kinase that is the mammalian target of rapamycin, an immunosuppressant that blocks vessel restenosis and also has potential anticancer applications. Rapamycin-insensitive companion of FRAP, also designated Rictor, shares homology with pianissimo from *D. discoideum*, STE20p from *S. pombe*, and AVO3p from *S. cerevisiae*. Rictor forms a complex with FRAP, which is important in cell growth regulation as it integrates growth factor and nutrient derived signals. The Rictor-FRAP complex plays a role in PKC $\alpha$  phosphorylation, directly phosphorylates Akt/PKB on Ser473 *in vitro* and facilitates Thr308 phosphorylation by PDK1. It also may function as a drug target in tumors that have lost expression of PTEN, a tumor suppressor that opposes activation of Akt/PKB.

## CHROMOSOMAL LOCATION

Genetic locus: Rictor (mouse) mapping to 15 A1.

## PRODUCT

Rictor 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rictor shRNA Plasmid (m): sc-61479-SH and Rictor shRNA (m) Lentiviral Particles: sc-61479-V as alternate gene silencing products.

For independent verification of Rictor (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-61479A, sc-61479B and sc-61479C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Rictor siRNA (m) is recommended for the inhibition of Rictor 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  $\mu$ M in 66  $\mu$ 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

Rictor (H-11): sc-271081 is recommended as a control antibody for monitoring of Rictor 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).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rictor gene expression knockdown using RT-PCR Primer: Rictor (m)-PR: sc-61479-PR (20  $\mu$ l, 501 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

- Chin, T.Y., et al. 2010. Inhibition of the mammalian target of rapamycin promotes cyclic AMP-induced differentiation of NG108-15 cells. *Autophagy* 6: 1139-1156.
- Chen, L. and Khillan, J.S. 2010. A novel signaling by vitamin A/retinol promotes self renewal of mouse embryonic stem cells by activating PI3K/Akt signaling pathway via Insulin-like growth factor-1 receptor. *Stem Cells* 28: 57-63.
- Brown, J., et al. 2011. Mammalian target of rapamycin complex 2 (mTORC2) negatively regulates Toll-like receptor 4-mediated inflammatory response via FoxO1. *J. Biol. Chem.* 286: 44295-44305.
- Ding, F., et al. 2014. Mammalian target of rapamycin complex 2 signaling pathway regulates transient receptor potential cation channel 6 in podocytes. *PLoS ONE* 9: e112972.
- Gao, Y., et al. 2015. Differential IKK/NF $\kappa$ B activity is mediated by TSC2 through mTORC1 in PTEN-null prostate cancer and tuberous sclerosis complex tumor cells. *Mol. Cancer Res.* 13: 1602-1614.
- Zhang, H.T., et al. 2016. The mTORC2/Akt/NF $\kappa$ B pathway-mediated activation of TRPC6 participates in adriamycin-induced podocyte apoptosis. *Cell. Physiol. Biochem.* 40: 1079-1093.
- Chen, X., et al. 2016. mTORC1 alters the expression of glycolytic genes by regulating KPNA2 abundances. *J. Proteomics* 136: 13-24.
- Dhar, S.K., et al. 2019. UVB-induced inactivation of manganese-containing superoxide dismutase promotes mitophagy via Ros-mediated mTORC2 pathway activation. *J. Biol. Chem.* 294: 6831-6842.
- Sanvee, G.M., et al. 2021. mTORC2 is an important target for simvastatin-associated toxicity in C2C12 cells and mouse skeletal muscle—roles of Rap 1 geranylgeranylation and mitochondrial dysfunction. *Biochem. Pharmacol.* 192: 114750.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.