SANTA CRUZ BIOTECHNOLOGY, INC.

# Rictor siRNA (h): sc-61478

## 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 PKCα 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 (human) mapping to 5p13.1.

## PRODUCT

Rictor siRNA (h) 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 Rictor shRNA Plasmid (h): sc-61478-SH and Rictor shRNA (h) Lentiviral Particles: sc-61478-V as alternate gene silencing products.

For independent verification of Rictor (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61478A, sc-61478B and sc-61478C.

## 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

Rictor siRNA (h) is recommended for the inhibition of Rictor expression in human 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

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 (h)-PR: sc-61478-PR (20 µl, 581 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS


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4. Mukhopadhyay, S., et al. 2015. 5-aminoimidazole-4-carboxamide-1-β-4-ribofuranoside (AICAR) enhances the efficacy of rapamycin in human cancer cells. Cell Cycle 14: 3331-3339.
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6. Chatterjee, P., et al. 2015. A carbazole alkaloid deactivates mTOR through the suppression of Rictor and that induces apoptosis in lung cancer cells. Mol. Cell. Biochem. 405: 149-158.
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9. Sohrabi, Y., et al. 2018. mTOR-dependent oxidative stress regulates oxLDL-induced trained innate immunity in human monocytes. Front. Immunol. 9: 3155.
10. Venugopal, S.V., et al. 2020. Differential roles and activation of mammalian target of rapamycin complexes 1 and 2 during cell migration in prostate cancer cells. Prostate 80: 412-423.
11. Kim, H.K., et al. 2020. TMBIM6/BI-1 contributes to cancer progression through assembly with mTORC2 and Akt activation. Nat. Commun. 11: 4012.


## RESEARCH USE

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