SANTA CRUZ BIOTECHNOLOGY, INC.

Protor-2 siRNA (h): sc-96853

BACKGROUND

mTOR is a large protein kinase that is important in cell growth and functions as the mammalian target of Rapamycin, an immunosuppressant that blocks vessel restenosis and also has potential anticancer applications. Rapamycin-insensitive companion of mTOR, also designated Rictor, forms a complex (designated mTORC2) with mTOR that directly phosphorylates Akt/PKB on Ser473 and plays a key role in growth signaling pathways. Protor-2, also known as PROTOR2 or FLJ14213, is a 368 amino acid protein that is thought to interact with the mTORC2 complex and, via this interaction, may regulate organization of the Actin cytoskeleton. Three isoforms of Protor-2 are expressed due to alternative splicing events.

REFERENCES

1. Ohara, O., et al. 2002. Characterization of size-fractionated cDNA libraries generated by the *in vitro* recombination-assisted method. DNA Res. 9: 47-57.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611728. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Beausoleil, S.A., et al. 2004. Large-scale characterization of HeLa cell nuclear phosphoproteins. Proc. Natl. Acad. Sci. USA 101: 12130-12135.
4. Jacinto, E., et al. 2004. Mammalian TOR complex 2 controls the Actin cytoskeleton and is Rapamycin insensitive. Nat. Cell Biol. 6: 1122-1128.
5. Sarbassov, D.D., et al. 2004. Rictor, a novel binding partner of mTOR, defines a Rapamycin-insensitive and Raptor-independent pathway that regulates the cytoskeleton. Curr. Biol. 14: 1296-1302.
6. Ali, S.M., et al. 2005. Structure of S6 kinase 1 determines whether Raptor-mTOR or Rictor-mTOR phosphorylates its hydrophobic motif site. J. Biol. Chem. 280: 19445-19448.
7. Hresko, R.C., et al. 2005. mTOR Rictor is the Ser473 kinase for Akt/protein kinase B in 3T3-L1 adipocytes. J. Biol. Chem. 280: 40406-40416.

CHROMOSOMAL LOCATION

Genetic locus: PRR5L (human) mapping to 11p13.

PRODUCT

Protor-2 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 Protor-2 shRNA Plasmid (h): sc-96853-SH and Protor-2 shRNA (h) Lentiviral Particles: sc-96853-V as alternate gene silencing products.

For independent verification of Protor-2 (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-96853A, sc-96853B and sc-96853C.

PROTOCOLS

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

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

Protor-2 siRNA (h) is recommended for the inhibition of Protor-2 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Protor-2 gene expression knockdown using RT-PCR Primer: Protor-2 (h)-PR: sc-96853-PR (20 µl, 435 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kong, D., et al. 2008. Platelet-derived growth factor-D overexpression contributes to epithelial-mesenchymal transition of PC3 prostate cancer cells. Stem Cells 26: 1425-1435.
2. Holmes, B., et al. 2012. Protor-2 interacts with tristetraprolin to regulate mRNA stability during stress. Cell. Signal. 24: 309-315.

RESEARCH USE

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