SANTA CRUZ BIOTECHNOLOGY, INC.

RCE1 siRNA (h): sc-106496

BACKGROUND

RCE1, a ubiquitously expressed, integral membrane endoprotease, facilitates membrane targeting of Ras and other prenylated proteins by releasing the last three carboxy-terminal amino acids, AAX, of the CAAX motif. Human RCE1 activity is specific for prenylated, farnesylated and geranylated proteins such as K-Ras, N-Ras, H-Ras, RAP1B and G-γ-1. Inhibition of RCE1 leads to retardation of cell growth, limitation of Ras-induced cell transformation and sensitization of tumor cells to a farnesyltransferase inhibitor. RCE1 belongs to the U48 peptidase family.

REFERENCES

1. Otto, J.C., et al. 1999. Cloning and characterization of a mammalian prenyl protein-specific protease. J. Biol. Chem. 274: 8379-8382.
2. Bergo, M.O., et al. 2002. Absence of the CAAX endoprotease RCE1: effects on cell growth and transformation. Mol. Cell. Biol. 22: 171-181.
3. Aiyagari, A.L., et al. 2003. Hematologic effects of inactivating the Ras processing enzyme RCE1. Blood 101: 2250-2252.
4. Cadinanos, J., et al. 2003. Identification, functional expression and enzymic analysis of two distinct CAAX proteases from *Caenorhabditis elegans*. Biochem J. 370: 1047-1054.
5. SWISS-PROT/TrEMBL (Q9Y256). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: RCE1 (human) mapping to 11q13.2.

PRODUCT

RCE1 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 RCE1 shRNA Plasmid (h): sc-106496-SH and RCE1 shRNA (h) Lentiviral Particles: sc-106496-V as alternate gene silencing products.

For independent verification of RCE1 (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-106496A, sc-106496B and sc-106496C.

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.

PROTOCOLS

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

APPLICATIONS

RCE1 siRNA (h) is recommended for the inhibition of RCE1 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 RCE1 gene expression knockdown using RT-PCR Primer: RCE1 (h)-PR: sc-106496-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kim, D.G., et al. 2022. AIMP2-DX2 provides therapeutic interface to control KRAS-driven tumorigenesis. Nat. Commun. 13: 2572.

RESEARCH USE

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