SANTA CRUZ BIOTECHNOLOGY, INC.

ISOC2 siRNA (h): sc-97269

BACKGROUND

ISOC2 (isochorismatase domain-containing protein 2) is a 205 amino acid protein belonging to the isochorismatase family. Isochorismatase is an enzyme that catalyzes the chemical reaction of isochorismate and water to 2,3-dihydroxy-2,3-dihydrobenzoate and pyruvate. Localized to mitochondrion and cytoplasm, ISOC2 interacts with CDKN2A and localizes to the nucleus in the presence of it. ISOC2 is ubiquitously expressed, with highest levels found in uterus, stomach and urinary tract system. Over expressed ISOC2 inhibits the expression of CDKN2A, suggesting that this novel gene may play a role during tumor development by interacting with CDKN2A. Three isoforms are produced by alternative splicing events.

REFERENCES

1. Young, I.G., et al. 1969. Regulation of the enzymes involved in the biosynthesis of 2,3-dihydroxybenzoic acid in *Aerobacter aerogenes* and *Escherichia coli*. Biochim. Biophys. Acta 177: 401-411.
2. Ruas, M., et al. 1998. The p16INK4a/CDKN2A tumor suppressor and its relatives. Biochim. Biophys. Acta 1378: F115-F177.
3. Jacobs, J.J., et al. 2004. Significant role for p16INK4a in p53-independent telomere-directed senescence. Curr. Biol. 14: 2302-2308.
4. Ishikawa, A., et al. 2004. Frequent p16ink4a inactivation is an early and frequent event of intraductal papillary neoplasm of the liver arising in hepatolithiasis. Hum. Pathol. 35: 1505-1514.
5. Ohtani, N., et al. 2004. The p16INK4a-RB pathway: molecular link between cellular senescence and tumor suppression. J. Med. Invest. 51: 146-153.
6. Huang, X., et al. 2007. Identification and characterization of a novel protein ISOC2 that interacts with p16INK4a. Biochem. Biophys. Res. Commun. 361: 287-293.
7. Online Mendelian Inheritance in Man, OMIM™. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 612928. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: ISOC2 (human) mapping to 19q13.42.

PRODUCT

ISOC2 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 ISOC2 shRNA Plasmid (h): sc-97269-SH and ISOC2 shRNA (h) Lentiviral Particles: sc-97269-V as alternate gene silencing products.

For independent verification of ISOC2 (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-97269A, sc-97269B and sc-97269C.

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

ISOC2 siRNA (h) is recommended for the inhibition of ISOC2 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 ISOC2 gene expression knockdown using RT-PCR Primer: ISOC2 (h)-PR: sc-97269-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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