SANTA CRUZ BIOTECHNOLOGY, INC.

ADCK2 siRNA (h): sc-89682

BACKGROUND

ADCK2 (aarF domain containing kinase 2), also known as AARF, is a 626 amino acid single-pass membrane protein belonging to the protein kinase superfamily and the ADCK protein kinase family. The ADCK family consists of five paralogs in human (ADCK1-5). Encoded by a gene that maps to human chromosome 7q34, ADCK2 contains one protein kinase domain. ADCK2 participates in ATP and nucleotide binding, transferase functions and protein serine/threonine kinase activities. Expression of ADCK2 inversely correlates with cellular viability, suggesting elevated expression of ADCK2 may be essential for tumour survival. ADCK2 is necessary for cell proliferation of glioblastoma multiforme (GBM), a fatal primary brain tumor containing countless genetic and epigenetic alterations.

REFERENCES

1. Yue, Y., et al. 2005. *De novo* t(7;10)(q33;q23) translocation and closely juxtaposed microdeletion in a patient with macrocephaly and developmental delay. Hum. Genet. 117: 1-8.
2. James, M.R., et al. 2005. BRAF polymorphisms and risk of melanocytic neoplasia. J. Invest. Dermatol. 125: 1252-1258.
3. López, L.C., et al. 2006. Leigh syndrome with nephropathy and CoQ10 deficiency due to decaprenyl diphosphate synthase subunit 2 (PDSS2) mutations. Am. J. Hum. Genet. 79: 1125-1129.
4. Sievert, A.J., et al. 2009. Duplication of 7q34 in pediatric low-grade astrocytomas detected by high-density single-nucleotide polymorphism-based genotype arrays results in a novel BRAF fusion gene. Brain Pathol. 19: 449-458.
5. Iorns, E., et al. 2009. Integrated functional, gene expression and genomic analysis for the identification of cancer targets. PLoS ONE 4: e5120.
6. Fujiwara, Y., et al. 2010. DNA microarray gene expression analysis of human vascular endothelial cells exposed to arsenite. J. Toxicol. Sci. 35: 275-278.
7. Guipponi, M., et al. 2010. SAGE analysis of genes differentially expressed in presymptomatic TgSOD1G93A transgenic mice identified cellular processes involved in early stage of ALS pathology. J. Mol. Neurosci. 41: 172-182.

CHROMOSOMAL LOCATION

Genetic locus: ADCK2 (human) mapping to 7q34.

PRODUCT

ADCK2 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 ADCK2 shRNA Plasmid (h): sc-89682-SH and ADCK2 shRNA (h) Lentiviral Particles: sc-89682-V as alternate gene silencing products.

For independent verification of ADCK2 (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-89682A, sc-89682B and sc-89682C.

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

ADCK2 siRNA (h) is recommended for the inhibition of ADCK2 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 ADCK2 gene expression knockdown using RT-PCR Primer: ADCK2 (h)-PR: sc-89682-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.

PROTOCOLS

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