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SANTA CRUZ BIOTECHNOLOGY, INC.

pki α siRNA (h): sc-44021

BACKGROUND

The second messenger cyclic AMP (cAMP) mediates a diverse array of cellular responses such as proliferation, ion transport, regulation of metabolism and gene transcription by activating the cAMP-dependent protein kinase (cAPK or PKA). Activation of PKA occurs when cAMP binds to the two regulatory subunits of tetrameric PKA, resulting in the release of two active catalytic subunits. Two forms of a specific PKA inhibitor molecule, designated pki α and pki β, have been described and are suggested to regulate PKA activity in different portions of the central nervous system. For instance, pki α is expressed abundantly in the adult mouse brain, particularly in the cerebellum, hypothalamus, hippocampus and cortex. In constrast, pki β is present at a much lower level in most brain regions. pki β is found in significant amounts only in the cerebellum and in a few distinct nuclei within the pons, medulla and hypothalamus.

REFERENCES

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5. Meinkoth, J.L., Alberts, A.S., Went, W., Fantozzi, D., Taylor, S.S., Hagiwara, M., Montminy, M. and Feramisco, J.R. 1993. Signal transduction through the cAMP-dependent protein kinase. Mol. Cell. Biochem. 127-128: 179-186.
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CHROMOSOMAL LOCATION

Genetic locus: PKIA (human) mapping to 8q21.12.

PRODUCT

pki α 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 pki α shRNA Plasmid (h): sc-44021-SH and pki α shRNA (h) Lentiviral Particles: sc-44021-V as alternate gene silencing products.

For independent verification of pki α (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-44021A, sc-44021B and sc-44021C.

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

pki α siRNA (h) is recommended for the inhibition of pki α 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 pki α gene expression knockdown using RT-PCR Primer: pki α (h)-PR: sc-44021-PR (20 µl, 545 bp). 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.