SANTA CRUZ BIOTECHNOLOGY, INC.

CRIK siRNA (h): sc-39214

BACKGROUND

Rho, the Ras-related small GTPase, is responsible for the regulation of actin-based cytoskeletal structures including stress fibers, focal adhesions, and the contractile ring apparatus. CRIK (Citron Rho-interacting kinase), also known as CIT, citron or STK21, is a 2,027 amino acid cytoplasmic protein that belongs to the protein kinase superfamily and the AGC Ser/Thr protein kinase family. Containing an AGC-kinase C-terminal domain, a CNH domain, a PH domain, a phorbol-ester/DAG-type zinc finger and a protein kinase domain, CRIK is suggested to play a role in the regulation of cytokinesis and the development of the central nervous system. CRIK is required for KIF14 localization to the central spindle and midbody. CRIK exists as four alternatively spliced isoforms and is encoded by a gene located on chromosome 12q24.23.

REFERENCES

1. Leung, T., et al. 1996. The p160 RhoA-binding kinase ROK α is a member of a kinase family and is involved in the reorganization of the cytoskeleton. Mol. Cell. Biol. 16: 5313-5327.
2. Di Cunto, F., et al. 1998. Citron Rho-interacting kinase, a novel tissue-specific Ser/Thr kinase encompassing the Rho-Rac-binding protein Citron. J. Biol. Chem. 273: 29706-29711.
3. Lyons-Warren, A., et al. 2005. Evidence of association between bipolar disorder and Citron on chromosome 12q24. Mol. Psychiatry 10: 807-809.
4. Gruneberg, U., et al. 2006. KIF14 and citron kinase act together to promote efficient cytokinesis. J. Cell Biol. 172: 363-372.
5. Kamijo, K., et al. 2006. Dissecting the role of Rho-mediated signaling in contractile ring formation. Mol. Biol. Cell 17: 43-55.
6. Berto, G., et al. 2007. The Down syndrome critical region protein TTC3 inhibits neuronal differentiation via RhoA and Citron kinase. J. Cell Sci. 120: 1859-1867.
7. Tan, I., et al. 2011. Chelerythrine perturbs lamellar actomyosin filaments by selective inhibition of myotonic dystrophy kinase-related Cdc42-binding kinase. FEBS Lett. 585: 1260-1268.

CHROMOSOMAL LOCATION

Genetic locus: CIT (human) mapping to 12q24.23.

PRODUCT

CRIK 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 CRIK shRNA Plasmid (h): sc-39214-SH and CRIK shRNA (h) Lentiviral Particles: sc-39214-V as alternate gene silencing products.

For independent verification of CRIK (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-39214A, sc-39214B and sc-39214C.

RESEARCH USE

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

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

CRIK siRNA (h) is recommended for the inhibition of CRIK 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.

GENE EXPRESSION MONITORING

CRIK (E-6): sc-390437 is recommended as a control antibody for monitoring of CRIK gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CRIK gene expression knockdown using RT-PCR Primer: CRIK (h)-PR: sc-39214-PR (20 µl, 599 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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