SANTA CRUZ BIOTECHNOLOGY, INC.

CARD 6 siRNA (m): sc-142011

BACKGROUND

Membrane-associated guanylate kinase (MAGUK) family members localize to the plasma membrane and function as molecular scaffolds for the assembly of multi-protein complexes. The MAGUK family includes several mammalian proteins related to the *Drosophila* tumor suppressor discs-large (dlg) gene product such as postsynaptic proteins, GKAPs, the tight junction associated proteins (ZO-1-3), and the caspase-associated recruitment domain (CARD) proteins: CARD 6, CARD 8-12 and CARD 14. CARD 6 is a 311-amino acid protein that associates with microtubules and acts as a selective mediator of NFκB activation. CARD 6 is structurally and functionally related to the superfamily of interferon (IFN)-inducible GTPases, a group that comprises host defense proteins which mediate cell-autonomous immunity. RICK, the receptor-interacting protein (RIP)-like interacting caspase-like apoptosis regulatory protein kinase, interacts with CARD 6 and targets it to aggresomes, regions of the cell where protein aggregates collect.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609986. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Stehlik, C., et al. 2003. CARD6 is a modulator of NFκB activation pathways. J. Biol. Chem. 278: 31941-31949.
3. Carson, S.D. 2004. Coxsackievirus and adenovirus receptor (CAR) is modified and shed in membrane vesicles. Biochemistry 43: 8136-8142.
4. Hong, G.S., et al. 2005. Caspase recruitment domain (CARD) as a bi-functional switch of caspase regulation and NFκB signals. J. Biochem. Mol. Biol. 35: 19-23.
5. Dufner, A., et al. 2006. Caspase recruitment domain protein 6 is a microtubule-interacting protein that positively modulates NFκB activation. Proc. Natl. Acad. Sci. USA 103: 988-993.

CHROMOSOMAL LOCATION

Genetic locus: Card6 (mouse) mapping to 15 A1.

PRODUCT

CARD 6 siRNA (m) 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 CARD 6 shRNA Plasmid (m): sc-142011-SH and CARD 6 shRNA (m) Lentiviral Particles: sc-142011-V as alternate gene silencing products.

For independent verification of CARD 6 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142011A, sc-142011B and sc-142011C.

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

CARD 6 siRNA (m) is recommended for the inhibition of CARD 6 expression in mouse 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 CARD 6 gene expression knockdown using RT-PCR Primer: CARD 6 (m)-PR: sc-142011-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.