SANTA CRUZ BIOTECHNOLOGY, INC.

CARD 9 siRNA (h): sc-60333

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 9 is the main transducer of Dectin-1 signals that consist of mediated myeloid cell activation, cytokine production, and innate anti-fungal immunity. Dectin-1 is the main mammalian receptor that recognizes the fungal component zymosan. CARD 9 self-associates and has coiled-coil motifs that may function as oligomerization domains. Bcl10 interacts with CARD 9 and regulates the zymosan induced NFκB activation. Overexpression of CARD 9 correlates with the development of gastric B-cell lymphoma.

REFERENCES

1. Bertin, J., et al. 2000. CARD 9 is a novel caspase recruitment domain-containing protein that interacts with Bcl10/CLAP and activates NFκB. J. Biol. Chem. 275: 41082-41086.
2. Wang, L., et al. 2001. CARD 10 is a novel caspase recruitment domain/membrane-associated guanylate kinase family member that interacts with Bcl10 and activates NFκB. J. Biol. Chem. 276: 21405-21409.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607212. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Kono, T., et al. 2003. Molecular cloning and expression analysis of a novel caspase recruitment domain protein (CARD) in common carp *Cyprinus carpio L.* Gene 309: 57-64.
5. Nakamura S., et al. 2005. Overexpression of caspase recruitment domain (CARD) membrane-associated guanylate kinase 1 (CARMA1) and CARD 9 in primary gastric B cell lymphoma. Cancer 104: 1885-1893.

CHROMOSOMAL LOCATION

Genetic locus: CARD9 (human) mapping to 9q34.3.

PRODUCT

CARD 9 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 CARD 9 shRNA Plasmid (h): sc-60333-SH and CARD 9 shRNA (h) Lentiviral Particles: sc-60333-V as alternate gene silencing products.

For independent verification of CARD 9 (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-60333A, sc-60333B and sc-60333C.

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 9 siRNA (h) is recommended for the inhibition of CARD 9 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

CARD 9 (A-8): sc-374569 is recommended as a control antibody for monitoring of CARD 9 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 CARD 9 gene expression knockdown using RT-PCR Primer: CARD 9 (h)-PR: sc-60333-PR (20 µl, 600 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.