SANTA CRUZ BIOTECHNOLOGY, INC.

CARD 8 siRNA (h): sc-105180

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, such as postsynaptic proteins, GKAPs, the tight junction associated proteins (ZO-1-3), and the caspase-associated recruitment domain (CARD) proteins, all of which are related to the *Drosophila* tumor suppressor discs-large (dlg) gene product. CARD 8, also designated DACAR, NDPP1, TUCAN or CARDINAL, is a 431 amino acid protein that is expressed in the lung, ovary, testis, and placenta. It regulates cellular responses controlled by NFκB activation and may play a key role in apoptosis and chronic inflammatory disorders. CARD 8 binds to caspase-1 and negatively regulates its activity. CARD 8 interact with IKKγ and FHL-2.

REFERENCES

1. Bouchier-Hayes, L., et al. 2001. CARDINAL, a novel caspase recruitment domain protein, is an inhibitor of multiple NFκB activation pathways. J. Biol. Chem. 276: 44069-44077.
2. Stilo, R., et al. 2002. TUCAN/CARDINAL and DRAL participate in a common pathway for modulation of NFκB activation. FEBS Lett. 521: 165-169.
3. Bouchier-Hayes, L., et al. 2004. CARDINAL roles in apoptosis and NFκB activation. Vitam. Horm. 67: 133-147.
4. Damiano, J.S., et al. 2004. CARD proteins as therapeutic targets in cancer. Curr. Drug Targets 5: 367-374.
5. Checinska, A., et al. 2006. TUCAN/CARDINAL/CARD8 and apoptosis resistance in non-small cell lung cancer cells. BMC Cancer 6: 166-166.
6. McGovern, D.P., et al. 2006. TUCAN (CARD8) genetic variants and inflammatory bowel disease. Gastroenterology 131: 1190-1196.
7. Checinska, A., et al. 2006. The expression of TUCAN, an inhibitor of apoptosis protein, in patients with advanced non-small cell lung cancer treated with chemotherapy. Anticancer Res. 26: 3819-3824.
8. Henckaerts, L., et al. 2007. Mutations in pattern recognition receptor genes modulate seroreactivity to microbial antigens in patients with inflammatory bowel disease. Gut 56: 1536-1542.

CHROMOSOMAL LOCATION

Genetic locus: CARD8 (human) mapping to 19q13.33.

PRODUCT

CARD 8 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 8 shRNA Plasmid (h): sc-105180-SH and CARD 8 shRNA (h) Lentiviral Particles: sc-105180-V as alternate gene silencing products.

For independent verification of CARD 8 (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-105180A, sc-105180B and sc-105180C.

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 8 siRNA (h) is recommended for the inhibition of CARD 8 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 8 (2108C2a): sc-81213 is recommended as a control antibody for monitoring of CARD 8 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CARD 8 gene expression knockdown using RT-PCR Primer: CARD 8 (h)-PR: sc-105180-PR (20 µl, 485 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.