SANTA CRUZ BIOTECHNOLOGY, INC.

CARD 8 (2108C2a): sc-81213

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 interacts 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. and Martin, S.J. 2004. CARDINAL roles in apoptosis and NFκB activation. Vitam. Horm. 67: 133-147.
4. Damiano, J.S. and Reed, J.C. 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.
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.
9. Fontalba, A., et al. 2007. Deficiency of the NFκB inhibitor caspase activating and recruitment domain 8 in patients with rheumatoid arthritis is associated with disease severity. J. Immunol. 179: 4867-4873.

CHROMOSOMAL LOCATION

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

SOURCE

CARD 8 (2108C2a) is a mouse monoclonal antibody raised against a recombinant protein corresponding to an internal region of CARD 8 of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 1.0% stabilizer protein.

APPLICATIONS

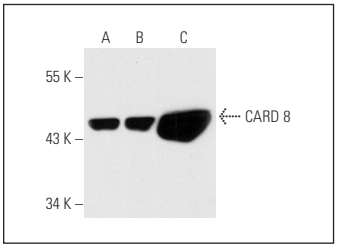
CARD 8 (2108C2a) is recommended for detection of CARD 8 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for CARD 8 siRNA (h): sc-105180, CARD 8 shRNA Plasmid (h): sc-105180-SH and CARD 8 shRNA (h) Lentiviral Particles: sc-105180-V.

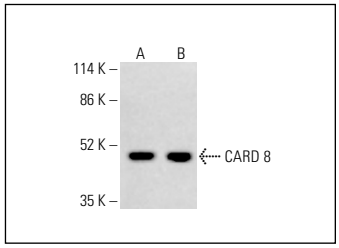
Molecular Weight of CARD 8: 49 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa whole cell lysate: sc-2200 or CARD 8 (h): 293T Lysate: sc-116655.

DATA



CARD 8 (2108C2a): sc-81213. Western blot analysis of CARD 8 expression in non-transfected 293T: sc-117752 (**A**), human CARD 8 transfected 293T: sc-116655 (**B**) and HeLa (**C**) whole cell lysates.



CARD 8 (2108C2a): sc-81213. Western blot analysis of CARD 8 expression in HeLa (**A**) and K-562 (**B**) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Mao, L., et al. 2018. Loss-of-function CARD8 mutation causes NLRP3 inflammasome activation and Crohn's disease. J. Clin. Invest. 128: 1793-1806.
2. Kikuchi, S., et al. 2023. DPP8 selective inhibitor tominostat as a novel and broad-spectrum anticancer agent against hematological malignancies. Cells 12: 1100.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

PROTOCOLS

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