SANTA CRUZ BIOTECHNOLOGY, INC.

CARD 12 (F-3): sc-514658

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 12 is expressed at high levels in bone marrow and expressed at lower levels in lymph node, placenta, spleen and brain tissues. CARD 12 regulates the activation of caspase-1, a caspase that plays a role in both apoptotic signaling and cytokine processing. The nucleotide-binding site domain of CARD 12 is specific for ATP/dATP. CARD 12 associates with itself and with ASC, an associated speck-like protein containing a CARD, recently identified as a proapoptotic protein. Together, they induce apoptosis and inflammatory signaling pathways.

REFERENCES

1. Geddes, B.J., et al. 2001. Human CARD 12 is a novel CED4/Apaf-1 family member that induces apoptosis. Biochem. Biophys. Res. Commun. 284: 77-82.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606831. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Damiano, J.S., et al. 2004. Multiple roles of CLAN (caspase-associated recruitment domain, leucine-rich repeat and NAIP CIIA HET-E and TP1-containing protein) in the mammalian innate immune response. J. Immunol. 173: 6338-6345.
4. Gutierrez, O., et al. 2004. Ipaf is upregulated by tumor necrosis factor α in human leukemia cells. FEBS Lett. 568: 79-82.
5. Wang, Y., et al. 2004. PYNOD, a novel Apaf-1/CED4-like protein is an inhibitor of ASC and caspase-1. Int. Immunol. 16: 777-786.
6. Hasegawa, M., et al. 2005. ASC-mediated NFκB activation leading to interleukin-8 production requires caspase-8 and is inhibited by CLARP. J. Biol. Chem. 280: 15122-15130.

CHROMOSOMAL LOCATION

Genetic locus: NLRC4 (human) mapping to 2p22.3.

SOURCE

CARD 12 (F-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 20-46 near the N-terminus of CARD 12 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514658 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

CARD 12 (F-3) is recommended for detection of CARD 12 isoforms CLAN A, B, C and D of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CARD 12 siRNA (h): sc-60328, CARD 12 shRNA Plasmid (h): sc-60328-SH and CARD 12 shRNA (h) Lentiviral Particles: sc-60328-V.

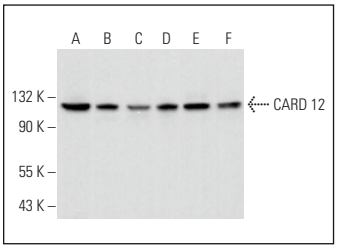
Molecular Weight of CARD 12: 116 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

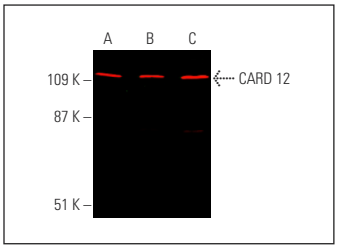
RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



CARD 12 (F-3): sc-514658. Western blot analysis of CARD 12 expression in IMR-32 (**A**), MCF7 (**B**), THP-1 (**C**), Jurkat (**D**), HeLa (**E**) and MDA-MB-231 (**F**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



CARD 12 (F-3): sc-514658. Near-infrared western blot analysis of CARD 12 expression in MCF7 (**A**), THP-1 (**B**) and HeLa (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.

SELECT PRODUCT CITATIONS

1. Triantafilou, K., et al. 2021. Differential recognition of HIV-stimulated IL-1β and IL-18 secretion through NLR and NAIP signalling in monocyte-derived macrophages. PLoS Pathog. 17: e1009417.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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