

CARD9 Antibody

Catalog # ASC10159

Product Information

Application	WB, ICC, E
Primary Accession	Q9H257
Other Accession	AF311287 , 11066983
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	62241
Conjugate	Unconjugated
Application Notes	CARD9 antibody can be used for detection of CARD9 by Western blot at 2.5 μ g/mL. A band at approximately 59 kDa can be detected. Antibody can also be used for immunocytochemistry starting at 10 μ g/mL.

Additional Information

Gene ID	64170
Other Names	CARD9 Antibody: CANDF2, hCARD9, Caspase recruitment domain-containing protein 9, caspase recruitment domain family, member 9
Target/Specificity	CARD9;
Reconstitution & Storage	CARD9 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	CARD9 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CARD9 {ECO:0000303 PubMed:11053425, ECO:0000312 HGNC:HGNC:16391}
Function	Adapter protein that plays a key role in innate immune response against fungi by forming signaling complexes downstream of C- type lectin receptors (PubMed: 26961233 , PubMed: 33558980). CARD9- mediated signals are essential for antifungal immunity against a subset of fungi from the phylum Ascomycota (PubMed: 24231284 , PubMed: 25057046 , PubMed: 25702837 , PubMed: 26521038 , PubMed: 26679537 , PubMed: 26961233 , PubMed: 27777981 , PubMed: 29080677 , PubMed: 33558980). Transduces signals in myeloid cells downstream of C-type lectin receptors CLEC7A (dectin-1), CLEC6A (dectin-2) and CLEC4E (Mincle), which detect pathogen- associated

molecular pattern metabolites (PAMPs), such as fungal carbohydrates, and trigger CARD9 activation (By similarity). Upon activation, CARD9 homooligomerizes to form a nucleating helical template that recruits BCL10 via CARD-CARD interaction, thereby promoting polymerization of BCL10 and subsequent recruitment of MALT1: this leads to activation of NF-kappa-B and MAP kinase p38 (MAPK11, MAPK12, MAPK13 and/or MAPK14) pathways which stimulate expression of genes encoding pro-inflammatory cytokines and chemokines (PubMed:[11053425](#), PubMed:[26488816](#), PubMed:[26961233](#), PubMed:[31296852](#), PubMed:[33558980](#)). CARD9 signaling in antigen-presenting cells links innate sensing of fungi to the activation of adaptive immunity and provides a cytokine milieu that induces the development and subsequent of interleukin 17-producing T helper (Th17) cells (PubMed:[24231284](#)). Also involved in activation of myeloid cells via classical ITAM- associated receptors and TLR: required for TLR-mediated activation of MAPK, while it is not required for TLR-induced activation of NF-kappa-B (By similarity). CARD9 can also be engaged independently of BCL10: forms a complex with RASGRF1 downstream of C-type lectin receptors, which recruits and activates HRAS, leading to ERK activation and the production of cytokines (By similarity). Acts as an important regulator of the intestinal commensal fungi (mycobiota) component of the gut microbiota (PubMed:[33548172](#)). Plays an essential role in antifungal immunity against dissemination of gut fungi: acts by promoting induction of antifungal IgG antibodies response in CX3CR1(+) macrophages to confer protection against disseminated C.albicans or C.auris infection (PubMed:[33548172](#)). Also mediates immunity against other pathogens, such as certain bacteria, viruses and parasites; CARD9 signaling is however redundant with other innate immune responses (By similarity). In response to L.monocytogenes infection, required for the production of inflammatory cytokines activated by intracellular peptidoglycan: acts by connecting NOD2 recognition of peptidoglycan to downstream activation of MAP kinases (MAPK) without activating NF- kappa-B (By similarity).

Cellular Location

Cytoplasm

Tissue Location

Expression is restricted to several populations of phagocytes, such as macrophages, monocytes, and dendritic cells (PubMed:[33548172](#)). Highly expressed in spleen (PubMed:[11053425](#)). Also detected in liver, placenta, lung, peripheral blood leukocytes and in brain (PubMed:[11053425](#)).

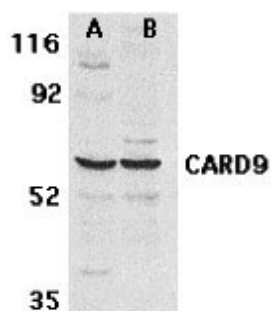
Background

CARD9 Antibody: Apoptosis is related to many diseases and development. Cell death signals are transduced by death domain (DD), death effector domain (DED), and caspase recruitment domain (CARD) containing molecules. CARD containing proteins include some caspases, Apaf-1, CARD4, IAPs, RICK, ARC, RAIDD, BCL-10, and ASC. A novel CARD-containing protein was recently identified and designated CARD9, which interacts with the CARD activation domain of BCL-10. CARD9 associates with BCL-10 and forms a complex within cells. CARD9 induces apoptosis and activates NF-κB. CARD9 is an upstream activator of BCL-10 and NF-κB signaling.

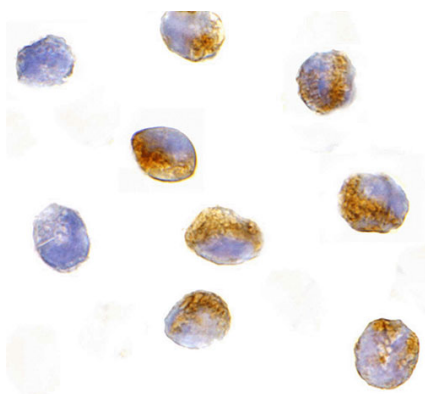
References

Bertin J, Guo Y, Wang L, Srinivasula SM, Jacobson MD, Poyet JL, Merriam S, Du MQ, Dyer MJ, Robison KE, DiStefano PS, Alnemri ES. CARD9 is a novel caspase recruitment domain-containing protein that interacts with BCL10/CLAP and activates NF-κ B. J Biol Chem. 2000;275(52):41082-6. (RD0202)

Images



Western blot analysis of CARD9 expression in human MDA-MB-361 (A) and PC-3 (B) cell lysate with CARD9 antibody at 2.5 $\mu\text{g/ml}$.



Immunocytochemistry of CARD9 in K562 cells with CARD9 antibody at 10 $\mu\text{g/mL}$.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.