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CARD8 Antibody

Catalog # ASC10206

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q9Y2G2
Other Accession	AAG50014, 12247742
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	60652
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	CARD8 antibody can be used for detection of CARD8 by Western blot at 2 and 4 g/mL. An approximate 45 kDa can be detected. Antibody can also be used for immunocytochemistry starting at 10 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	22900
Other Names	CARD8 Antibody: NDPP, DACAR, DAKAR, NDPP1, TUCAN, CARDINAL, KIAA0955, Caspase recruitment domain-containing protein 8, Apoptotic protein NDPP1, caspase recruitment domain family, member 8
Target/Specificity	CARD8;
Reconstitution & Storage	CARD8 antibody can be stored at 4℃ for three months and -20℃, 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	CARD8 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CARD8 {ECO:0000303|PubMed:11821383, ECO:0000312|HGNC:HGNC:17057}
Function	Inflammasome sensor, which mediates inflammasome activation in response to various pathogen-associated signals, leading to subsequent pyroptosis of CD4(+) T-cells and macrophages (PubMed:11408476, PubMed:11821383, PubMed:15030775, PubMed:32051255, PubMed:32840892, PubMed:33542150, PubMed:34019797, PubMed:36357533). Inflammasomes are supramolecular complexes that

	assemble in the cytosol in response to pathogens and other damage-associated signals and play critical roles in innate immunity and inflammation (PubMed:11408476, PubMed:11821383, PubMed:15030775, PubMed:36357533). Acts as a recognition receptor (PRR): recognizes specific pathogens and other damage-associated signals, such as HIV-1 protease activity or Val- boroPro inhibitor, and mediates CARD8 inflammasome activation (PubMed:32840892, PubMed:33542150, PubMed:36357533). In response to pathogen-associated signals, the N-terminal part of CARD8 is degraded by the proteasome, releasing the cleaved C-terminal part of the protein (Caspase recruitment domain-containing protein 8, C-terminus), which polymerizes to initiate the formation of the inflammasome complex: the CARD8 inflammasome directly recruits pro-caspase-1 (proCASP1) independently of PYCARD/ASC and promotes caspase-1 (CASP1) activation, which subsequently cleaves and activates inflammatory cytokines IL1B and IL18 and gasdermin-D (GSDMD), leading to pyroptosis (PubMed:32051255, PubMed:32840892, PubMed:33053349, PubMed:33542150, PubMed:36357533). Ability to sense HIV-1 protease activity leads to the clearance of latent HIV-1 in patient CD4(+) T-cells after viral reactivation; in contrast, HIV-1 can evade CARD8-sensing when its protease remains inactive in infected cells prior to viral budding (PubMed:33542150). Also acts as a negative regulator of the NLRP3 inflammasome (PubMed:24517500). May also act as an inhibitor of NF- kappa-B activation (PubMed:11551959, PubMed:12067710).
Cellular Location	Cytoplasm. Nucleus
Tissue Location	High expression in lung, ovary, testis and placenta (PubMed:11551959). Lower expression in heart, kidney and liver (PubMed:11551959). Also expressed in spleen, lymph node and bone marrow (PubMed:11821383).

Background

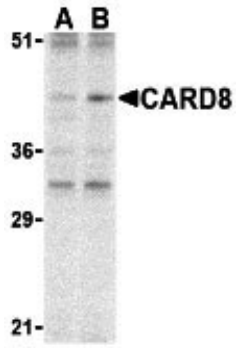
CARD8 Antibody: Apoptosis is related to many diseases and development. Cell death signals are transduced by death domain (DD), death effector domain (DED), and caspase recruitment domain (CARD) containing molecules. CARD containing proteins include some caspases, Apaf-1, CARD4, IAPs, RICK, ARC, RAIDD, BCL-10, and ASC. A novel CARD-containing protein was recently identified and designated CARD8. This protein interacts with DRAL, a p53-responsive protein implicated in the induction of apoptosis, and caspase-1 and its related proteins ICEBERG and pesudo-ICE. Although there are conflicting reports on whether CARD8 acts a pro- or anti-apoptotic protein, it has been suggested that it functions as an adaptor molecule regulating caspase-1 and NF-κB activation.

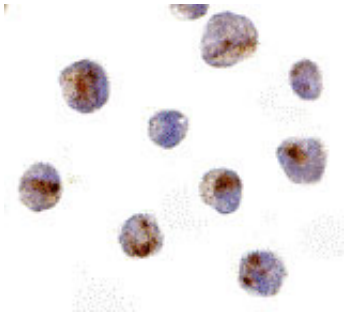
References

Scholl FA, McLoghlin P, Ehler E, et al. DRAL is a p53-responsive gene whose four and a half LIM domain protein product induces apoptosis. J. Cell Biol. 2000; 151:495-506.
Stil R, Leonardi A, Formisano L, et al. TUCAN/CARDINAL and DRAL participate in a B activation. FEBS 2002;kcommon pathway for modulation of NF- 521:165-9.
Razmara M, Srinivasula SM, Wang L, et al. CARD-8 protein, a new CARD family member that regulates caspase-1 activation and apoptosis. J. Biol. Chem. 2002; 277:13952-8.
Pathan N, Marusawa H, Krajewska M, et al. TUCAN, an antiapoptotic caspase-assoicated recruitment domain family protein overexpressed in cancer. J. Biol. Chem. 2001; 276:32220-9.

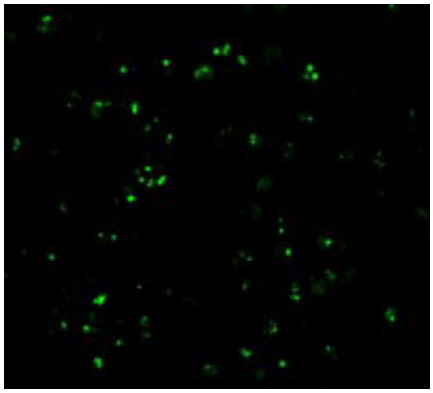
Images

Western blot analysis of CARD8 expression in K562 cell lysate with CARD8 antibody at (A) 2 and (B) 4 µg /ml.





Immunocytochemistry of CARD8 in K562 cells with CARD8 antibody at 10 µg/mL.



Immunofluorescence of CARD8 in K562 cells with CARD8 antibody at 20 µg/mL.

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