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PRODUCT DATASHEET

Anti-Asc (Tyr-144), Phosphospecific Antibody

phosphosolutions ANTIBODIES THAT WORK

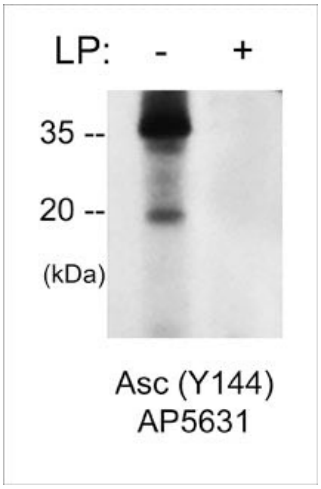
Product Details

Available Variants	100 µL (SKU:AP5631)
Conjugate	Unconjugated
Isotype	IgG
Gene Name	Pycard
Host Species	Rabbit
Format	Antigen Affinity Purified
Physical State	Liquid
Buffer	PBS + 1 mg/ml BSA, 0.05% NaN3 and 50% glycerol
Applications	ELISA, ICC, WB
Dilution Ranges	WB: 1:1000 ICC: 1:100
Species Reactivity	Human, Mouse, Rat
Immunogen	Asc (Tyr-144) phospho-peptide (coupled to KLH) corresponding to amino acid residues surrounding Tyr-144 in mouse Asc. This peptide sequence is highly conserved in human and rat Asc.
Specificity	This antibody was cross-adsorbed to unphosphorylated Asc (Tyr-144) peptide before affinity purification using phospho-Asc (Tyr-144) peptide. The antibody detects phosphorylated Asc (Tyr-144) in the inflammasome. In J774 macrophage cells primed with LPS and treated with nigericin, the antibody colocalized with an inflammasome marker, caspase-1 inhibitor (FAM-YVAD-FMK). In addition, the antibody detects a 20 kDa Asc protein in western blots of J774A.1 mouse macrophages treated with pervanadate.
Molecular Weight	22
Quality Control	Western blots performed on each lot.

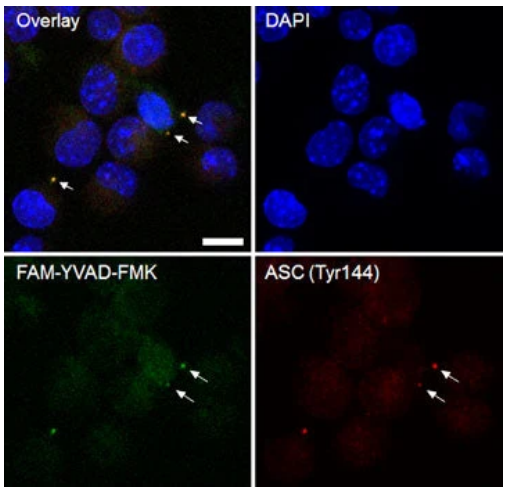
Storage	Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.
UniProt ID	Q9EPB4 UniProt Summary: Functions as a key mediator in apoptosis and inflammation. Promotes caspase-mediated apoptosis involving predominantly caspase-8 and also caspase-9 in a probable cell type-specific manner. Involved in activation of the mitochondrial apoptotic pathway, promotes caspase-8-dependent proteolytic maturation of BID independently of FADD in certain cell types and also mediates mitochondrial translocation of BAX and activates BAX-dependent apoptosis coupled to activation of caspase-9, -2 and -3. Involved in innate immune response by acting as an integral adapter in the assembly of various inflammasomes (NLRP1, NLRP2, NLRP3, NLRP6, AIM2 and probably IFI16) which recruit and activate caspase-1 leading to processing and secretion of pro-inflammatory cytokines. Caspase-1-dependent inflammation leads to macrophage pyroptosis, a form of cell death. The function as activating adapter in different types of inflammasomes is mediated by the pyrin and CARD domains and their homotypic interactions. Clustered PYCARD nucleates the formation of caspase-1 filaments through the interaction of their respective CARD domains, acting as a platform for of caspase-1 polymerization. In the NLRP1 and NLRC4 inflammasomes seems not be required but facilitates the processing of procaspase-1. In cooperation with NOD2 involved in an inflammasome activated by bacterial muramyl dipeptide leading to caspase-1 activation. May be involved in RIGI-triggered pro-inflammatory responses and inflammasome activation. In collaboration with AIM2 which detects cytosolic double-stranded DNA may also be involved in a caspase-1-independent cell death that involves caspase-8. In adaptive immunity may be involved in maturation of dendritic cells to stimulate T-cell immunity and in cytoskeletal rearrangements coupled to chemotaxis and antigen uptake may be involved in post-transcriptional regulation of the guanine nucleotide exchange factor DOCK2; the latter function is proposed to involve the nuclear form. Also involved in transcriptional activation of cytokines and chemokines independent of the inflammasome; this function may involve AP-1, NF-kappa-B, MAPK and caspase-8 signaling pathways. For regulation of NF-kappa-B activating and inhibiting functions have been reported. Modulates NF-kappa-B induction at the level of the IKK complex by inhibiting kinase activity of CHUK and IKBK. Proposed to compete with RIPK2 for association with CASP1 thereby down-regulating CASP1-mediated RIPK2-dependent NF-kappa-B activation and activating interleukin-1 beta processing. Modulates host resistance to DNA virus infection, probably by inducing the cleavage of and inactivating CGAS in presence of cytoplasmic double-stranded DNA.
Country of Origin	United States
Shipping	Blue Ice
Expiration	After date of receipt, stable for at least 1 year at -20°C.

Usage Statement	For research use only. Not intended for therapeutic or diagnostic use. Use of all products is subject to our terms and conditions, which can be viewed on our website.
Post Translational Modification Type	Phosphorylated
Post Translational Modification Residue	Tyr-144
NCBI Gene ID	66824

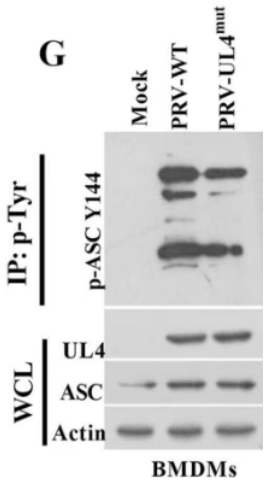
Product Images



Western blot analysis of mouse macrophage J774A.1 cells stimulated with pervanadate (1 mM for 30 min.), then untreated (-) or treated (+) with alkaline phosphatase. The blot was probed with rabbit polyclonal anti-Asc (Tyr-144) phospho-specific antibody (AP5631) at 1:500.



Immunocytochemical labeling of Asc (Tyr-144) in inflammasomes. Paraformaldehyde fixed J774 cells were primed with LPS and treated with nigericin. Cells were co-labeled with DAPI, a caspase-1 inhibitor (FAM-YVAD-FMK), and anti-Asc (Tyr-144) phosphospecific antibody detected with AlexaFluor 568 secondary. (Image provided by Jordan Yaron, Center for Biosignatures Discovery Automation, Arizona State University)



Immunoprecipitation analysis of ASC Y144 (Cat. AP5631) phosphorylation in mouse bone marrow-derived macrophages (BMDMs) infected with Mock, PRV-WT, PRV-UL4mut for 12 h. Image from publication CC-BY-4.0. PMID: 39110798

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