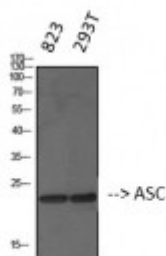


Anti-ASC antibody



Western Blot (WB) analysis of 1. 823 2. 293T using ASC Polyclonal Antibody. (STJ91730)



Description

ASC is a protein encoded by the PYCARD gene which is approximately 21,6 kDa. ASC is localised to the cytoplasm, endoplasmic reticulum, mitochondrion and nucleus. It is involved in toll-like receptor signalling pathways, CLEC7A (Dectin-1) signalling and the innate immune system. It functions as key mediator in apoptosis and inflammation. It promotes caspase-mediated apoptosis involving predominantly caspase-8 and also caspase-9 in a cell type-specific manner. ASC is widely expressed at low levels in human tissues. Mutations in the PYCARD gene may result in chronic recurrent multifocal osteomyelitis and Cinca syndrome. STJ91730 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of ASC protein.

Model	STJ91730
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IF, IHC, WB
Immunogen	Synthesized peptide derived from human ASC
Immunogen Region	10-90 aa, N-terminal
Gene ID	29108
Gene Symbol	PYCARD
Dilution range	WB 1:500-1:2000IHC 1:100-1:300IF 1:200-1:1000ELISA 1:40000
Specificity	ASC Polyclonal Antibody detects endogenous levels of ASC protein.
Tissue Specificity	Widely expressed at low levels. Detected in peripheral blood leukocytes, lung,

small intestine, spleen, thymus, colon and at lower levels in placenta, liver and kidney. Very low expression in skeletal muscle, heart and brain. Detected in the leukemia cell lines HL-60 and U-937, but not in Jurkat T-cell lymphoma and Daudi Burkitt's lymphoma. Detected in the melanoma cell line WM35, but not in WM793. Not detected in HeLa cervical carcinoma cells and MOLT-4 lymphocytic leukemia cells.

Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Apoptosis-associated speck-like protein containing a CARD hASC Caspase recruitment domain-containing protein 5 PYD and CARD domain-containing protein Target of methylation-induced silencing 1
Molecular Weight	21 kDa
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:16608OMIM:606838
Alternative Names	Apoptosis-associated speck-like protein containing a CARD hASC Caspase recruitment domain-containing protein 5 PYD and CARD domain-containing protein Target of methylation-induced silencing 1
Function	Functions as 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 macrophage pyroptosis, a caspase-1-dependent inflammatory form of cell death and is the major constituent of the ASC pyroptosome which forms upon potassium depletion and rapidly recruits and activates caspase-1. In innate immune response believed to act as an integral adapter in the assembly of the inflammasome which activates caspase-1 leading to processing and secretion of proinflammatory cytokines. The function as activating adapter in different types of inflammasomes is mediated by the pyrin and CARD domains and their homotypic interactions. Required for recruitment of caspase-1 to inflammasomes containing certain pattern recognition receptors, such as NLRP2, NLRP3, AIM2 and probably IFI16. 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 DDX58-triggered proinflammatory responses and inflammasome activation. Isoform 2 may have a regulating effect on the function as inflammasome adapter. Isoform 3 seems to inhibit inflammasome-

mediated maturation of interleukin-1 beta. 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 MB21D1 in presence of cytoplasmic double-stranded DNA .

Sequence and Domain Family	The CARD domain mediates interaction with CASP1 and NLRC4 . The pyrin domain mediates homotypic interactions with pyrin domains of proteins such as of NLRP3, PYDC1, PYDC2 and AIM2.
Cellular Localization	Cytoplasm. Endoplasmic reticulum. Mitochondrion. Nucleus. Upstream of caspase activation, a redistribution from the cytoplasm to the aggregates occurs. These appear as hollow, perinuclear spherical, ball-like structures. Upon NLRP3 inflammasome activation redistributes to the perinuclear space localizing to endoplasmic reticulum and mitochondria. Localized primarily to the nucleus in resting monocytes/macrophages and rapidly redistributed to the cytoplasm upon pathogen infection. Localized to large cytoplasmic aggregate appearing as a speck containing AIM2, PYCARD, CASP8 and bacterial DNA after infection with <i>Francisella tularensis</i> .
Post-translational Modifications	Phosphorylated.