

# Asc (Tyr-144), phospho-specific Rabbit Polyclonal

Cat. # AP5631

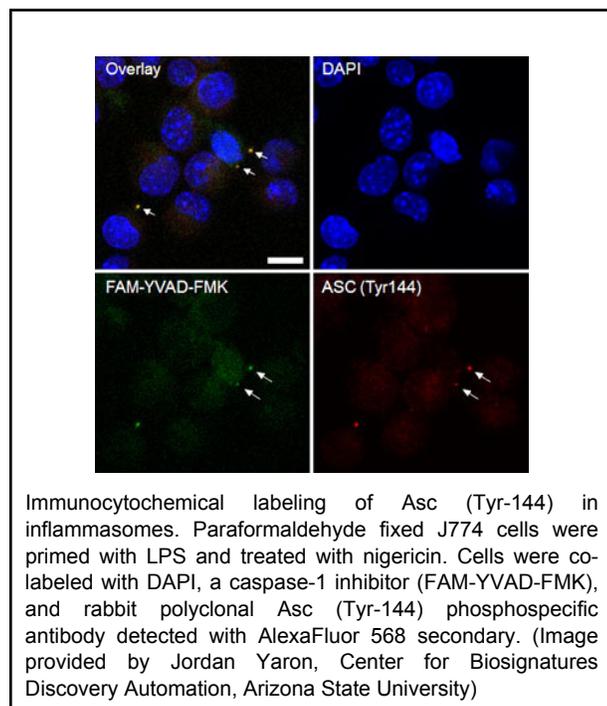
Size 100 µl

## Background

Host- and pathogen-associated cytoplasmic double-stranded DNA triggers the activation of a NALP3-independent inflammasome, which activates caspase-1, leading to maturation of pro-interleukin-1beta and inflammation. Several studies have isolated AIM2 (absent in melanoma 2) as a candidate cytoplasmic-DNA-sensing protein that contains an N-terminal pyrin domain and C-terminal oligonucleotide binding domain. A screen for transcripts induced by interferon-beta identified AIM2 gene expression. AIM2 protein bound double-stranded DNA, recruited the inflammasome adaptor ASC, and localized to ASC containing speckles. AIM2 and ASC form a pyroptosome, which induces pyroptotic cell death mediated by caspase-1. Asc can be phosphorylated at Tyr-144 in a Syk and JNK-dependent manner. This phosphorylation is critical for Asc speck formation and Caspas-1 activation.

## Background References

Roberts, T.L. et al. (2009). *Science*. 323(5917):1057.  
Bürckstümmer, T. et al. (2009). *Nat Immunol*. 10(3):266.  
Hara, H. et al. (2013) *Nature Immunol*. 14(12):1247.



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 rabbit polyclonal Asc (Tyr-144) phosphospecific antibody detected with AlexaFluor 568 secondary. (Image provided by Jordan Yaron, Center for Biosignatures Discovery Automation, Arizona State University)

## Applications

WB 1:1000  
ELISA 1:1000

## Species Reactivity

Hu, Rt, Ms

## Specificity

This antibody was cross-absorbed to unphosphorylated Asc (Tyr-144) peptide before affinity purification using phospho-Asc (Tyr-144) peptide (without carrier). 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).

End user should determine optimal dilution for their particular applications and experiments.  
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1hour at room temperature.

\*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

## 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.

## Buffer and Storage

Rabbit polyclonal, affinity-purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

## Related Products

AP3851 AIM2 (N-terminal region) Rabbit Polyclonal  
CK6360 Caspase Family Antibody Sampler Kit  
CM4891 Caspase-1 (C-terminal region) Mouse Monoclonal  
CM3771 Caspase-3 (N-terminal region) Mouse Monoclonal  
CM4911 Caspase-3 (p17 subunit) Mouse Monoclonal

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