

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 Caspase-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.

Applications

Blocking 1:1000
ELISA 50 ng/well

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 1 hour at room temperature.

Specificity

The peptide is specifically recognized by Asc (Tyr-144), phospho-specific antibody (AP5631) in ELISA, and has been shown to block the reactivity of AP5631 in Western blot. In addition, the peptide is recommended for use in blocking AP5631 reactivity in immunocytochemistry.

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

Peptide Sequence

Asc (Tyr-144) phospho-peptide 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

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.
Store at -20°C. Stable for 1 year.

Related Products

AK7600 Actin Filament Regulation Immunocytochemistry Kit
AP5631 Asc (Tyr-144), phospho-specific Rabbit Polyclonal
CK6360 Caspase Family Antibody Sampler Kit
CM4891 Caspase-1 (C-terminal region) Mouse Monoclonal
MK6050 MAP Kinase Activation Antibody Sampler Kit

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