

AIM2 (N-terminal region)

Cat. # AP3851

Host Rabbit Polyclonal

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 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. RNA-mediated suppression of AIM2 expression impairs DNA-induced maturation of interleukin-1beta in THP-1 human monocytic cells, as well as abrogates caspase-1 activation in response to cytoplasmic double-stranded DNA and the double-stranded DNA vaccinia virus. Thus, AIM2 is a DNA-sensing protein for the activation of the caspase-1 inflammasome.

References

- Bürckstümmer, T. et al. (2009). Nat Immunol. 10(3):266.
 Fernandes-Alnemri, T. (2009) Nature. 458(7237):509.
 Hornung, V. et al. (2009). Nature. 458(7237):514.
 Roberts, T.L. et al. (2009). Science. 323(5917):1057.

Immunogen:

AIM2 synthetic peptide (coupled to KLH) corresponding to amino acid residues in the N-terminal region of human AIM2. This peptide sequence is highly conserved in rat and mouse AIM2.

Applications:

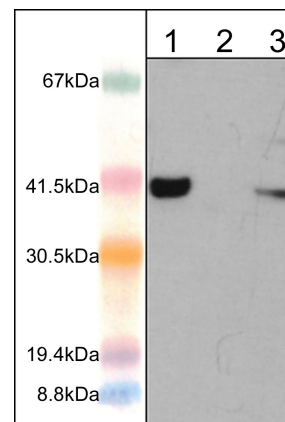
WB 1:1000
 ELISA 1:2000

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.

Related Products:

- AX3855 AIM2 (N-terminal region) Peptide
 CK6360 Caspase Family Antibody Sampler Kit
 CM3771 Caspase-3 (N-terminal region) Mouse Monoclonal
 RM2741 ROCK-I (C-terminal), cleavage-specific Mouse Monoclonal
 TM3391 TRADD (C-terminal region) Mouse Monoclonal
 RS3251 Mouse Anti-Rabbit Ig Light-Chain Specific:HRP Mouse Monoclonal

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Western blot analysis of human Jurkat cells (lane 1), mouse macrophages untreated (lane 2) and treated (lane 3) with IFN γ (10 ng/ml) and LPS (1 μ g/ml) for 12 hr (20 μ g/lane). The blot was probed with rabbit polyclonal anti-AIM2 (N-terminal region) antibody at 1:1000.

Buffer and Storage:

Rabbit polyclonal, affinity-purified antibody is supplied in 100 μ l phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20° C. Do not aliquot. Stable for 1 year.

Specificity:

This antibody was affinity purified using AIM2 (N-terminal region) peptide (without carrier). The antibody detects a 40 kDa* doublet corresponding to AIM2 in immunoblots of Jurkat cells, as well as mouse macrophages treated with IFN γ and LPS.

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

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