

AIM2 (N-terminal region) Peptide

Cat. # AX3855

Size 50 µg

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.

Peptide Sequence:

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

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.

Applications:

Blocking 1:1000

ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody.
Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.
ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

Specificity:

The peptide is specifically recognized by AIM2 (N-terminal region) antibody (AP3851) in ELISA, and has been shown to block the reactivity of AP3851 in Western blot. In addition, the peptide is recommended for use in blocking AP3851 reactivity in immunocytochemistry.

Related Products:

AP3851 AIM2 (N-terminal region) Rabbit Polyclonal
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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www.ecmbiosciences.com
telephone: 859-879-2075
toll-free: 1-800-859-8202
email: info@ecmbiosciences.com

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