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# AIM2 Antibody
**Mouse Monoclonal Antibody (Mab)**
**Catalog # AM2210b**

## Specification

### AIM2 Antibody - Product Information

| | |
|---|---|
| Application | **WB,E** |
| Primary Accession | O14862 |
| Reactivity | **Human** |
| Host | **Mouse** |
| Clonality | **Monoclonal** |
| Isotype | **IgM** |

### AIM2 Antibody - Additional Information

**Gene ID** 9447

**Other Names**
Interferon-inducible protein AIM2, Absent in melanoma 2, AIM2

**Target/Specificity**
This AIM2 Monoclonal antibody is generated from mouses immunized with a KLH conjugated synthetic peptide selected from the 10-40 region of human AIM2.

**Dilution**
WB~~1□1000
E~~Use at an assay dependent concentration.

**Format**
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Euglobin precipitation followed by dialysis against PBS.

**Storage**
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**
AIM2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

### AIM2 Antibody - Protein Information

**Name** AIM2 {ECO:0000303|PubMed:9242382, ECO:0000312|HGNC:HGNC:357}

**Function** Sensor component of the AIM2 inflammasome, which mediates inflammasome activation in response to the presence of double-stranded DNA (dsDNA) in the cytosol, leading to subsequent pyroptosis (PubMed:17726700, PubMed:19158675, PubMed:19158676, PubMed:19158679, PubMed:20566831, PubMed:23530044, PubMed:26197926, PubMed:26583071, PubMed:29440442, PubMed:33980849, PubMed:37364111). Inflammasomes

are supramolecular complexes that assemble in the cytosol in response to pathogens and other damage-associated signals and play critical roles in innate immunity and inflammation (PubMed:17726700, PubMed:19158675, PubMed:19158676, PubMed:19158679, PubMed:20566831, PubMed:26197926, PubMed:29440442, PubMed:33980849). Acts as a recognition receptor (PRR): specifically recognizes and binds dsDNA in the cytosol, and mediates the formation of the inflammasome polymeric complex composed of AIM2, CASP1 and PYCARD/ASC (PubMed:17726700, PubMed:19158675, PubMed:19158676, PubMed:19158679, PubMed:20566831, PubMed:26197926, PubMed:29440442, PubMed:33980849). Recruitment of pro-caspase-1 (proCASP1) to the AIM2 inflammasome promotes caspase-1 (CASP1) activation, which subsequently cleaves and activates inflammatory cytokines IL1B and IL18 and gasdermin-D (GSDMD), promoting cytokine secretion (PubMed:17726700, PubMed:19158675, PubMed:19158676, PubMed:19158679, PubMed:20566831). In some cells, CASP1 activation mediates cleavage and activation of GSDMD, triggering pyroptosis without promoting cytokine secretion (PubMed:19158675, PubMed:19158676). Detects cytosolic dsDNA of viral and bacterial origin in a non-sequence-specific manner (PubMed:17726700, PubMed:19158675, PubMed:19158676, PubMed:19158679, PubMed:20566831, PubMed:26197926, PubMed:26583071, PubMed:29440442, PubMed:33980849). Involved in the DNA damage response caused by acute ionizing radiation by mediating pyroptosis of intestinal epithelial cells and bone marrow cells in response to double-strand DNA breaks (By similarity). Mechanistically, AIM2 senses DNA damage in the nucleus to mediate inflammasome assembly and inflammatory cell death (By similarity). Also acts as a regulator of neurodevelopment via its role in the DNA damage response: acts by promoting neural cell death in response to DNA damage in the developing brain, thereby purging genetically compromised cells of the central nervous system (By similarity). Pyroptosis mediated by the AIM2 inflammasome in response to DNA damage is dependent on GSDMD without involving IL1B and IL18 cytokine secretion (By similarity). Also acts as a mediator of pyroptosis, necroptosis and apoptosis (PANoptosis), an integral part of host defense against pathogens, in response to bacterial infection (By similarity). Can also trigger PYCARD/ASC- dependent, caspase-1-independent cell death that involves caspase-8 (CASP8) (By similarity).

**Cellular Location**
Cytoplasm. Inflammasome. Nucleus. Note=Activated inflammasomes can aggregate in the cytosol as speck-like particles (PubMed:19158675, PubMed:19158676, PubMed:19158679). Activated inflammasomes can also aggregate in the nucleus in response to DNA damage: AIM2 is recruited to double-strand DNA breaks and mediates activation of the AIM2 inflammasome (By similarity). {ECO:0000250|UniProtKB:Q91VJ1, ECO:0000269|PubMed:19158675, ECO:0000269|PubMed:19158676, ECO:0000269|PubMed:19158679}

**Tissue Location**
Expressed in spleen, small intestine, peripheral blood leukocytes, and testis.

## AIM2 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

## AIM2 Antibody - Images

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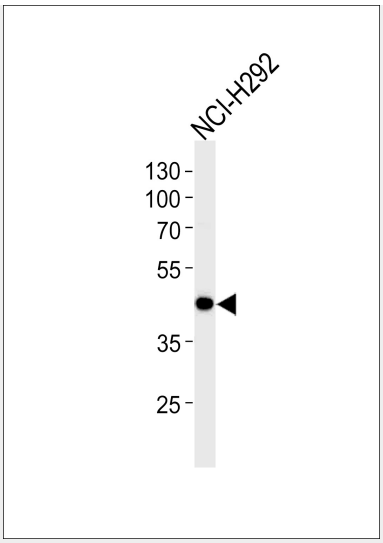
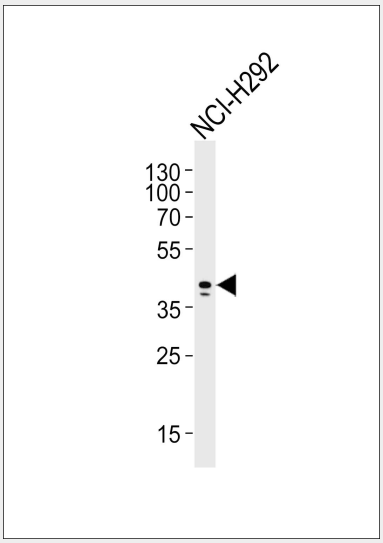



Western blot analysis of lysate from NCI-H292 cell line, using AIM2 Antibody(Cat. #AM2210B). AM2210B was diluted at 1:1000. A goat anti-mouse IgM H&L(HRP) at 1:3000 dilution was used as the secondary antibody. Lysate at 20µg.

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## AIM2 Antibody - Background

Tumor suppressor which may act by repressing NF-kappa-B transcriptional activity.

## AIM2 Antibody - References

DeYoung K.L., et al. Oncogene 15:453-457(1997).
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Gregory S.G., et al. Nature 441:315-321(2006).
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