

## Anti-AIM2 Antibody Picoband®

Catalog Number: PB9683

### About AIM2

Interferon-inducible protein AIM2, also known as absent in melanoma 2 or simply AIM2, is a protein that in humans is encoded by the AIM2 gene. It is mapped to 1q22. AIM2 is a member of the Ifi202/IFI16 family. It plays a putative role in tumorigenic reversion and may control cell proliferation. Interferon-gamma induces expression of AIM2. Though there has been virtually no biochemistry performed, a model based on cell-based or in vivo experiments has led to the current model of how AIM2 triggers the inflammasome. The C-terminal HIN domain binds double stranded DNA (either viral, bacterial, or even host) and acts as a cytosolic dsDNA sensor. This leads to the oligomerization of the inflammasome complex. The N-terminal pyrin domain of AIM2 interacts with the pyrin domain of another protein ASC (or Apoptosis-associated Speck-like protein containing a caspase activation and recruitment domain). ASC also contains a CARD domain (caspase activation and recruitment domain), that recruits procaspase-1 to the complex. This leads to the autoactivation of caspase-1, an enzyme that processes proinflammatory cytokines (IL-1b and IL-18).

### Overview

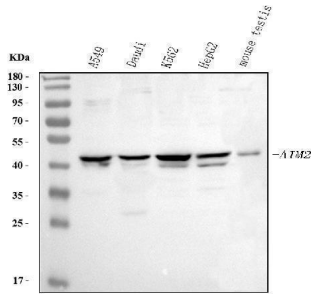
Product Name	Anti-AIM2 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-AIM2 Antibody Picoband® catalog # PB9683. Tested in IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains antibody formulated with stabilizing components, 0.9 mg NaCl, 0.2 mg Na <sub>2</sub> HPO <sub>4</sub> , and 0.05 mg NaN <sub>3</sub> . *This antibody is supplied in a stabilized formulation. Compatibility with conjugation reactions depends on the chemistry of the conjugation method used. For conjugation methods that are not compatible with the stabilizing components present in this formulation, a carrier-free antibody format is required.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	O14862

### Technical Details

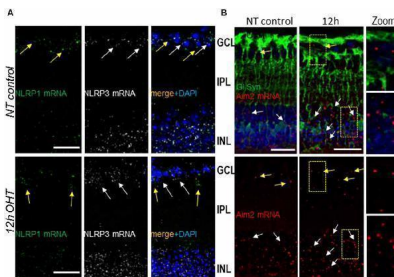
Immunogen	E.coli-derived human AIM2 recombinant protein (Position: L14-H215). Human AIM2 shares 53.8%
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	amino acid (aa) sequence identity with mouse AIM2.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Immunohistochemistry (Paraffin-embedded Section), 0.5-1ug/ml, Human, Mouse, Rat Western blot, 0.1-0.5ug/ml, Human, Mouse

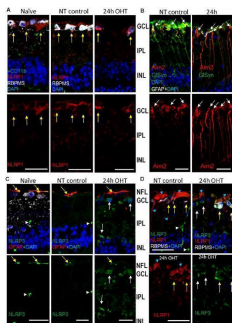
## Anti-AIM2 Antibody Picoband® (PB9683) Images



Western blot analysis of AIM2 using anti-AIM2 antibody (PB9683). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human A549 whole cell lysates, Lane 2: human Daudi whole cell lysates, Lane 3: human K562 whole cell lysates, Lane 4: human HepG2 whole cell lysates, Lane 5: mouse testis tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-AIM2 antigen affinity purified polyclonal antibody (Catalog # PB9683) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for AIM2 at approximately 45 kDa. The expected band size for AIM2 is at 39,40-45 kDa.

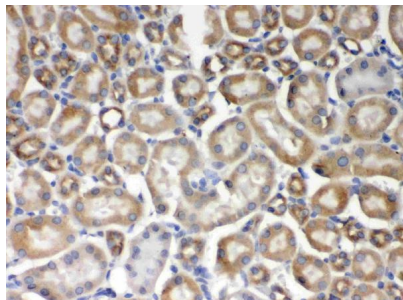


Gene expression and cellular distribution of NLRP1, NLRP3 and Aim2 sensors in the retina. (A) RNAscope analysis of NLRP1 (green dots, yellow arrows) and NLRP3 (white dots, white arrows) transcript abundance in normotensive control (NT control) and experimental (OHT) retinas at 12 h postinjury. (B) Aim2 transcript (red dots) abundance in normotensive control and experimental retinas. Co-staining for the Muller glia marker glutamine synthetase (GISyn, green) is added to indicate cellular expression of Aim2 in the GCL layer (yellow arrows) and INL (white arrows) in control and 12 h post-OHT retinas. Bar, 25 um on all panels. Index in PubMed under a CC BY license. PMID: 30930743

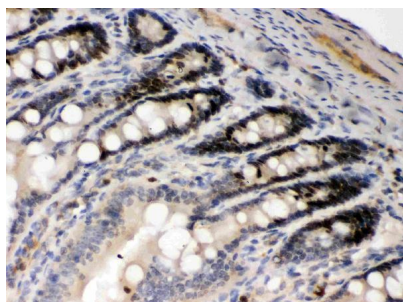


OHT-induced upregulation of Aim2 inflammasome in the retina. (A) NLRP1 antibody labeling (red) in the inner retina; yellow arrows indicate colocalization with RGC neurons (RBPSM +) in the GCL. (B) Immunohistochemistry for Aim2 protein (red) and Muller glia marker (GISyn, green). Arrows show colocalization with Muller glia; no colocalization is detected with astrocytes (GFAP, white) in both control and 24 h post-OHT retinas. (C) NLRP3 labeling (green) in the inner retina of naïve and control eyes localized only to blood capillaries (white arrowhead) and astrocytes (yellow arrows), but not to RGCs (RBPSM cells). At 24 h post-injury the labeling in large cells in the GCL and INL (white arrows) are observed. (D) The NLRP1 and NLRP3 proteins localized to distinct cell types in the GCL of naïve and NT control retinas: NLRP3 (green) is only expressed in blood vessels (white arrowheads). Twenty four hours after OHT, NLRP3 colocalizes with NLRP1 in RGCs (yellow arrows) and to RBPSM-cells (white arrows). Blue arrowheads denote

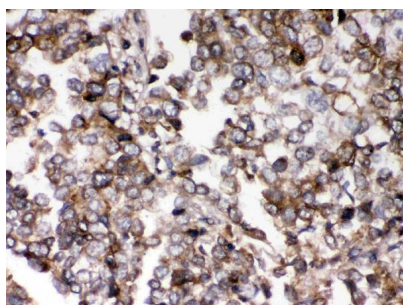
labeling in RGC axons and dendrites. Bar, 25 um on all panels. Index in PubMed under a CC BY license. PMID: 30930743



IHC analysis of AIM2 using anti-AIM2 antibody (PB9683). AIM2 was detected in a paraffin-embedded section of mouse kidney tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-AIM2 Antibody (PB9683) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



IHC analysis of AIM2 using anti-AIM2 antibody (PB9683). AIM2 was detected in a paraffin-embedded section of rat intestine tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-AIM2 Antibody (PB9683) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.



IHC analysis of AIM2 using anti-AIM2 antibody (PB9683). AIM2 was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 ug/ml rabbit anti-AIM2 Antibody (PB9683) overnight at 4°C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) (Catalog # SA1022) with DAB as the chromogen.

## 1 Publications Citing This Product

1. PubMed ID: 10.3389/fnmol.2019.00036, Inflammasome Activation Induces Pyroptosis in the Retina Exposed to Ocular Hypertension Injury

Visit [bosterbio.com/anti-aim2-picoband-trade-antibody-pb9683-boster.html](https://bosterbio.com/anti-aim2-picoband-trade-antibody-pb9683-boster.html) to see all 1 publications.

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