

Anti-CIAS1/NALP3/NLRP3 Antibody Picoband™

Catalog Number: PB9114

About NLRP3

NLRP3 (NLR FAMILY, PYRIN DOMAIN-CONTAINING 3), also known as CIAS1, CRYOPYRIN, NALP3 or PYPAF1, is a protein that in humans is encoded by the NLRP3 gene. It is mapped to 1q44. The encoded protein may play a role in the regulation of inflammation and apoptosis. Mutation of the NALP3 nucleotide-binding domain reduced ATP binding, CASP1 activation, IL1B production, cell death, macromolecular complex formation, self-association, and association with ASC. Consistent with an essential role for Nlrp3 inflammasomes in antifungal immunity, it has been showed that Nlrp3-deficient mice are hypersusceptible to *C. albicans* infection. Activation of the NLRP3 inflammasome in response to virus or to RNA was dependent upon lysosomal maturation and reactive oxygen species production in human cells. The NLRP3 inflammasome senses obesity-associated danger signals and contributes to obesity-induced inflammation and insulin resistance.

Overview

Product Name	Anti-CIAS1/NALP3/NLRP3 Antibody Picoband™
Reactive Species	Human
Description	Boster Bio Anti-CIAS1/NALP3/NLRP3 Antibody Picoband™ catalog # PB9114. Tested in WB applications. This antibody reacts with Human.
Application	WB
Clonality	Polyclonal
Formulation	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.05mg NaN ₃ .
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	Q96P20

Technical Details

Immunogen	E.coli-derived human CIAS1 recombinant protein (Position: D21-K194). Human CIAS1 shares 77% amino acid (aa) sequence identity with mouse CIAS1.
Predicted Reactive Species	Bovine, Horse, Monkey, Rabbit
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot.
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	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: Western blot, 0.1-0.5ug/ml, Human

Anti-CIAS1/NALP3/NLRP3 Antibody Picoband™ (PB9114) Images

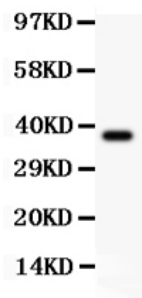


Figure 1. Western blot analysis of CIAS1/NALP3 using anti-CIAS1/NALP3 antibody (PB9114).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours.
Lane 1: recombinant human CIAS1 protein 0.5 ng.
After electrophoresis, proteins were transferred to 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-CIAS1/NALP3 antigen affinity purified polyclonal antibody (Catalog # PB9114) 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 CIAS1/NALP3 at approximately 37 kDa. The expected band size for CIAS1/NALP3 is at 37 kDa.

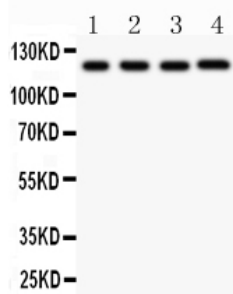


Figure 2. Western blot analysis of CIAS1/NALP3 using anti-CIAS1/NALP3 antibody (PB9114).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.
Lane 1: human Hela whole cell lysates,
Lane 2: human MCF-7 whole cell lysates,
Lane 3: human Jurkat whole cell lysates,
Lane 4: human HepG2 whole cell 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-CIAS1/NALP3 antigen affinity purified polyclonal antibody (Catalog # PB9114) 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 CIAS1/NALP3 at approximately 118 kDa. The expected band size for CIAS1/NALP3 is at 118 kDa.

3 Publications Citing This Product

1. PubMed ID: 31156617, Wei Z, Wang J, Wang Y, Wang C, Liu X, Han Z, Fu Y, Yang Z. Effects of Neutrophil Extracellular Traps on Bovine Mammary Epithelial Cells in vitro. *Front Immunol*. 2019 May 17;10:1003. doi:10.3389/fimmu.2019.01003. PMID:31156617; PMCID:PMC6533846.
2. PubMed ID: 24884473, Wang B, Yang G, Liang X, Zhu M, Du M. *Bmc Complement Altern Med*. 2014 May 20;14:162. Doi: 10.1186/1472-6882-14-162. Grape Seed Extract Prevents Skeletal Muscle Wasting In Interleukin 10 Knockout Mice.

3. PubMed ID: 24775094, Xue Y, Wang H, Du M, Zhu Mj. J Nutr Biochem. 2014 Jul;25(7):758-64. Doi: 10.1016/J.Jnutbio.2014.03.009. Epub 2014 Apr 1. Maternal Obesity Induces Gut Inflammation And Impairs Gut Epithelial Barrier Function In Nonobese Diabetic Mice.

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