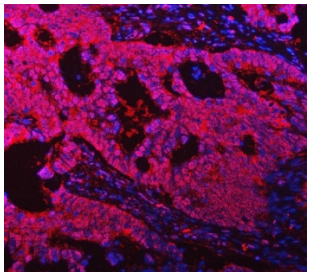
PYCARD Antibody / Inflammasome Adaptor Protein Antibody (RQ8210)

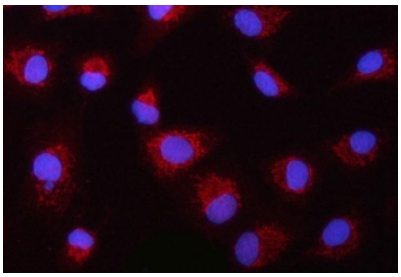
Catalog No.	Formulation	Size
RQ8210	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

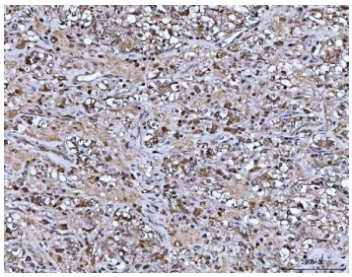
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q9ULZ3
Localization	Cytoplasmic, nuclear
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This PYCARD Antibody / Inflammasome Adaptor Protein Antibody is available for research use only.



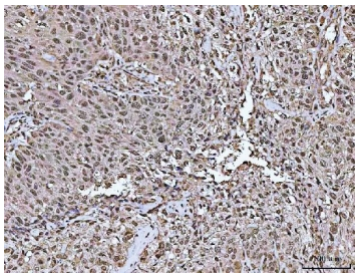
PYCARD Antibody / Inflammasome Adaptor Protein Antibody Human Intestinal Cancer IF. Immunofluorescent staining of FFPE human intestinal cancer tissue using PYCARD Antibody / Inflammasome Adaptor Protein Antibody (red) with DAPI nuclear counterstain (blue). PYCARD expression is observed predominantly within the cytoplasm of tumor cells, consistent with its role as an adaptor protein that mediates inflammasome assembly, innate immune signaling, and inflammatory responses. Heat-induced epitope retrieval was performed by steaming sections in pH 8 EDTA buffer for 20 minutes prior to immunofluorescent staining.



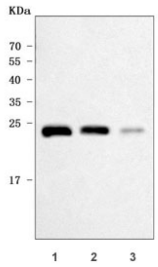
PYCARD Antibody / Inflammasome Adaptor Protein Antibody A549 Cell IF. Immunofluorescent staining of FFPE human A549 cells using PYCARD Antibody / Inflammasome Adaptor Protein Antibody (red) with DAPI nuclear counterstain (blue). PYCARD expression is observed predominantly within the cytoplasm, consistent with its role as an inflammasome adaptor protein that mediates innate immune signaling, ASC speck formation, and inflammatory caspase activation. Heat-induced epitope retrieval was performed by steaming sections in pH 6 citrate buffer for 20 minutes prior to immunofluorescent staining.



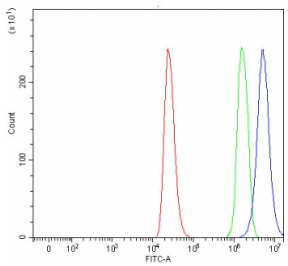
PYCARD Antibody / Inflammasome Adaptor Protein Antibody Human Glioblastoma IHC. Immunohistochemical staining of FFPE human glioblastoma tissue using PYCARD Antibody / Inflammasome Adaptor Protein Antibody. PYCARD expression is detected predominantly within the cytoplasm of tumor cells, consistent with its role as a central adaptor protein in inflammasome assembly and innate immune signaling. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes and allowing them to cool prior to immunostaining.



PYCARD Antibody / Inflammasome Adaptor Protein Antibody Human Urothelial Carcinoma IHC. Immunohistochemical staining of FFPE human urothelial carcinoma with squamous differentiation using PYCARD Antibody / Inflammasome Adaptor Protein Antibody. PYCARD expression is observed predominantly within the cytoplasm of neoplastic cells, consistent with its established role as an inflammasome adaptor protein involved in innate immune signaling, inflammatory responses, and pyroptotic cell death. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes and allowing them to cool prior to immunostaining.



PYCARD Antibody / Inflammasome Adaptor Protein Antibody WB. Western blot analysis of human THP-1, HL-60, and A549 cell lysates using PYCARD Antibody / Inflammasome Adaptor Protein Antibody. A distinct immunoreactive band is detected at approximately 22 kDa, consistent with the predicted molecular weight of PYCARD (ASC). Strong expression is observed in THP-1 and HL-60 cells, with comparatively lower expression detected in A549 cells, supporting specific detection of endogenous PYCARD across multiple human cell lines.



PYCARD Antibody / Inflammasome Adaptor Protein Antibody THP-1 FACS. Flow cytometric analysis of human THP-1 cells using PYCARD Antibody / Inflammasome Adaptor Protein Antibody at 1 ug per million cells. A clear rightward shift of the antibody-stained population (blue) relative to the isotype control (green) demonstrates specific detection of endogenous PYCARD (ASC) expression. Cells alone are shown in red. Cells were blocked with goat serum prior to antibody incubation to minimize non-specific binding.

Description

PYCARD Antibody / Inflammasome Adaptor Protein Antibody recognizes PYCARD, also known as apoptosis-associated speck-like protein containing a CARD (ASC), a bipartite adaptor protein that serves as a central organizer of inflammasome signaling. PYCARD contains both an amino-terminal pyrin domain and a carboxyl-terminal caspase recruitment domain, enabling it to bridge activated pattern recognition receptors with inflammatory caspases. This adaptor function is essential for assembly of multiple inflammasome complexes, making PYCARD a critical regulator of innate immunity, inflammatory signaling, and programmed cell death. PYCARD Antibody / Inflammasome Adaptor Protein Antibody is widely used to investigate inflammasome activation and host defense mechanisms.

PYCARD mediates formation of inflammasomes downstream of receptors including NLRP3, AIM2, and additional innate immune sensors. Following detection of microbial pathogens or cellular stress signals, PYCARD rapidly oligomerizes into characteristic ASC specks that recruit and activate caspase 1. Activated caspase 1 subsequently processes pro-interleukin 1 beta and pro-interleukin 18 into their biologically active forms while initiating pyroptosis, an inflammatory form of programmed cell death that eliminates infected or damaged cells. These signaling events place PYCARD at the center of innate immune responses and inflammatory cytokine production.

Beyond its role in antimicrobial defense, PYCARD contributes to sterile inflammation, tissue repair, neuroinflammation, metabolic disease, cardiovascular disorders, and tumor biology. Dysregulated inflammasome activation has been implicated in numerous chronic inflammatory conditions, autoimmune diseases, neurodegenerative disorders, and cancer, making PYCARD an important therapeutic target as well as a valuable biomarker of inflammasome activity. Ongoing research continues to define how PYCARD regulates immune homeostasis and inflammatory signaling across diverse physiological and pathological settings.

NSJ Bioreagents' PYCARD Antibody / Inflammasome Adaptor Protein Antibody provides researchers with a dependable reagent for immunohistochemistry, western blotting, immunofluorescence, flow cytometry, and additional immunodetection applications. These antibodies support investigations of inflammasome assembly, ASC speck formation, innate immune signaling, pyroptosis, and inflammatory disease mechanisms while enabling reliable detection of endogenous PYCARD expression in normal and diseased tissues. Whether studying immunology, oncology, infectious disease, or inflammation, PYCARD Antibody / Inflammasome Adaptor Protein Antibody delivers a robust tool for advanced biological research.

Explore additional antibodies for innate immune signaling, inflammation, and host defense research on our Immunology Antibodies page.

Application Notes

Optimal dilution of the PYCARD Antibody / Inflammasome Adaptor Protein Antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant human protein (amino acids M1-S195) was used as the immunogen for the TMS1 antibody.

Storage

After reconstitution, the TMS1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

PYCARD antibody, ASC antibody, Apoptosis-Associated Speck-Like Protein antibody, Inflammasome Adaptor Protein antibody, PYD and CARD Domain Containing Protein antibody, CARD5 antibody

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