

Product Datasheet

Caspase-11 Antibody (17D9) - BSA Free NB120-10454

Unit Size: 0.1 ml

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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NB120-10454

Caspase-11 Antibody (17D9) - BSA Free

Product Information	
Unit Size	0.1 ml
Concentration	1.0 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	17D9
Preservative	0.02% Sodium Azide
Isotype	IgG2a
Purity	Protein G purified
Buffer	PBS
Target Molecular Weight	35-43 kDa

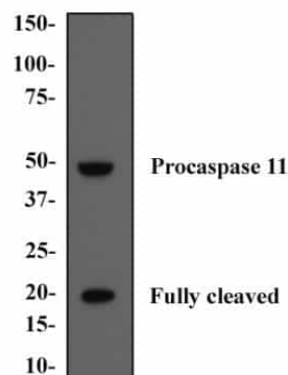
Product Description	
Description	Novus Biologicals Knockout (KO) Validated Rat Caspase-11 Antibody (17D9) - BSA Free (NB120-10454) is a monoclonal antibody validated for use in IHC, WB, ELISA, Flow, ICC/IF and IP. Anti-Caspase-11 Antibody: Cited in 81 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rat
Gene ID	12363
Gene Symbol	Casp4
Species	Human, Mouse, Rat, Bovine
Reactivity Notes	Use in Rat reported in scientific literature (PMID:32318575). Use in Bovine reported in scientific literature (PMID:31156617).
Immunogen	A recombinant p30 subunit of mouse Caspase 11. [UniProt# P70343]

Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, ELISA, Flow Cytometry, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunoprecipitation, Microarray, Knockdown Validated, Knockout Validated
Recommended Dilutions	Western Blot 5 ug/ml, Flow Cytometry reported in scientific literature (PMID 27708283), ELISA, Immunohistochemistry 1:10-1:500, Immunocytochemistry/ Immunofluorescence 1:100, Immunoprecipitation reported in scientific literature (PMID 10791975), Immunohistochemistry-Paraffin 1:100, Immunohistochemistry-Frozen 1:10-1:500, Immunoblotting reported in scientific literature (PMID 28345580), Microarray, Knockout Validated, Knockdown Validated

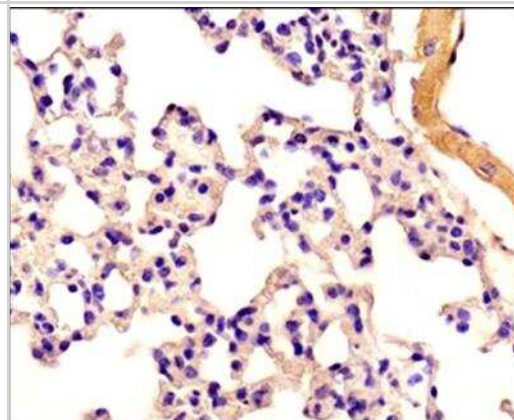


Images

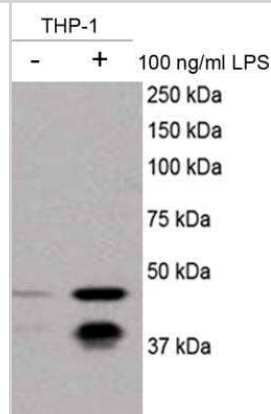
Western Blot: Caspase-11 Antibody (17D9) [NB120-10454] - Mouse liver extract was separated on a 4-15% gel and transferred to PVDF membrane. The membrane was probed with anti-caspase 11 antibody and detected with an anti-rat HRP secondary antibody. Both procaspase 11 and fully cleaved caspase 11 are detected.



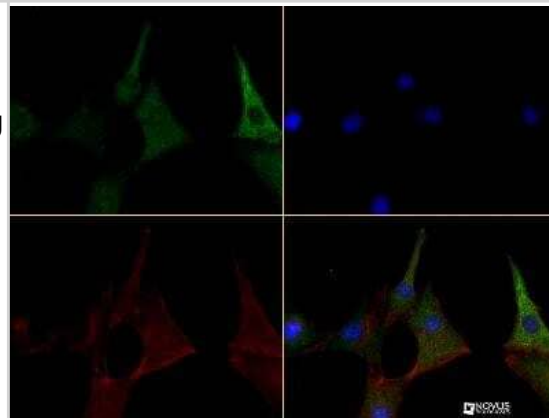
Immunohistochemistry-Paraffin: Caspase-11 Antibody (17D9) [NB120-10454] - IHC-P analysis of a formalin fixed paraffin embedded tissue section of mouse lung using Caspase 11 antibody (clone 17D9) at 1:100 dilution. The antibody generated cytoplasmic signal with more intense staining in the bronchiolar epithelium while the staining signal in alveolar cells was relatively low.



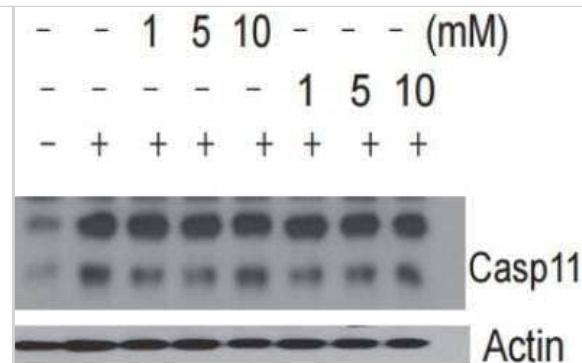
Western Blot: Caspase-11 Antibody (17D9) [NB120-10454] - Analysis of Caspase-11 in THP-1 cell lysates that were untreated (left lane) or treated (right lane) with 100 ng/ml LPS. Image from verified customer review.



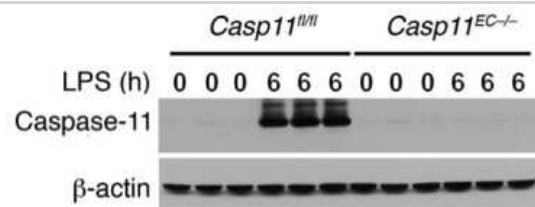
Immunocytochemistry/Immunofluorescence: Caspase-11 Antibody (17D9) [NB120-10454] - Caspase 11 antibody was tested in NIH-3T3 cells at a 1:100 dilution using a Dylight 488 conjugated secondary antibody (Green). Actin (Red) and DNA (Blue) were counterstained using Phalloidin 568 and DAPI.



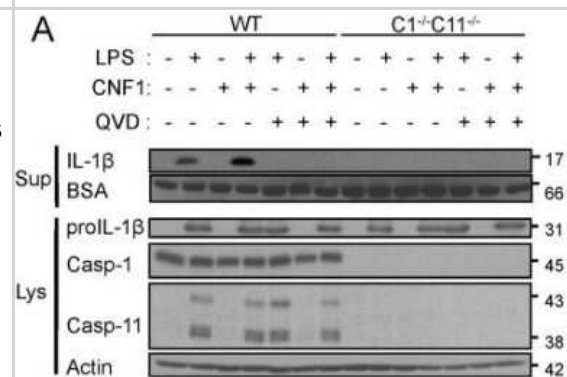
Western Blot: Caspase-11 Antibody (17D9) [NB120-10454] - Caspase 11 Antibody (17D9) [NB120-10454] - analysis of Caspase 11 in LPS stimulated bone marrow derived macrophages using anti-Caspase 11 antibody. Image from verified customer review.



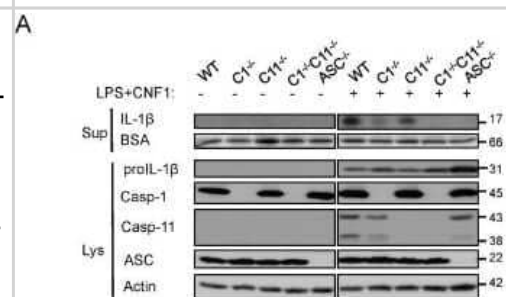
Western Blot: Caspase-11 Antibody (17D9) [NB120-10454] - Casp11fl/fl and Casp11EC-/- mice (n = 3) were challenged with LPS (40 mg/kg i.p.) for 6 hours. Endothelial Cells were isolated from lungs, and western blot analysis was performed for pro-IL-1Beta, mature IL-1Beta, and caspase-1 cleavage. This image is from PMID: 28990935.



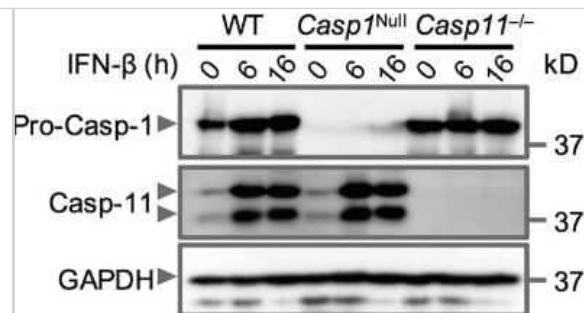
Western Blot: Caspase-11 Antibody (17D9) [NB120-10454] - CNF1-triggered immunity requires inflammatory caspases. (A and B) IL-1beta production and maturation/secretion after treatment with CNF1, LPS or CNF1 (1 ug/ml) + LPS (100 ng/ml) for 10 h. Actin and BSA were used as loading controls. Image collected and cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.ppat.1004732>), licensed under a CC-BY license.



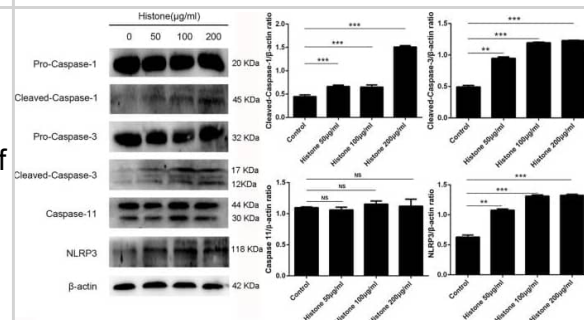
Western Blot: Caspase-11 Antibody (17D9) [NB120-10454] - CNF1-triggered IL-1beta maturation requires activated Rac, ASC and caspase-1. Western blot analysis of the production and maturation/secretion of IL-1beta by primary macrophages following treatment with CNF1, LPS or CNF1+LPS for 10 h. Actin and BSA were used as loading controls. Image collected and cropped by CiteAb from the following publication (<https://dx.plos.org/10.1371/journal.ppat.1004732>), licensed under a CC-BY license.



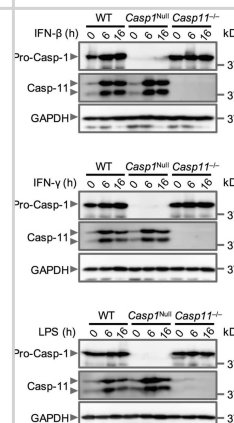
Western Blot: Caspase-11 Antibody (17D9) [NB120-10454] - Caspase-11 is expressed in Casp1Null bone marrow-derived macrophages. Immunoblot analysis of caspase-1, caspase-11 and GAPDH (loading control) in unprimed WT at various times (above lane) after stimulation with IFN-beta (250U/ml), IFN-gamma (100 ng/ml) or LPS (100 ng/ml). Data are representative of two independent experiments. Image collected and cropped by CiteAb from the following publication (<https://www.nature.com/articles/srep45126>), licensed under a CC-BY license.



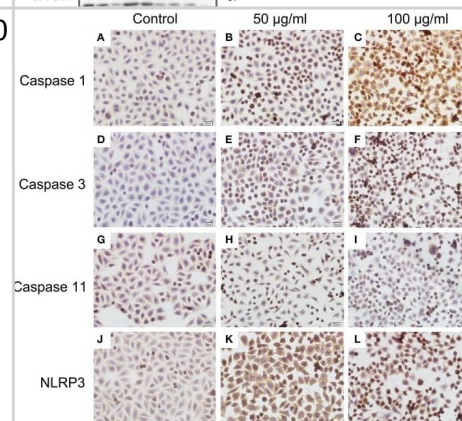
Western Blot: Caspase-11 Antibody (17D9) - BSA Free [NB120-10454] - Histone induce BMECs pyroptosis is dependent on activations of caspase 1, caspase 3 & NLRP3. BMECs were incubated with stimulated histone for 16 h, & the activities of these proteins were determined by western blotting. Data are presented as mean \pm SEM (n = 5). P-values of < 0.05 were considered significant (**P < 0.01, ***P < 0.001, & "ns" means not significant). Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31156617>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



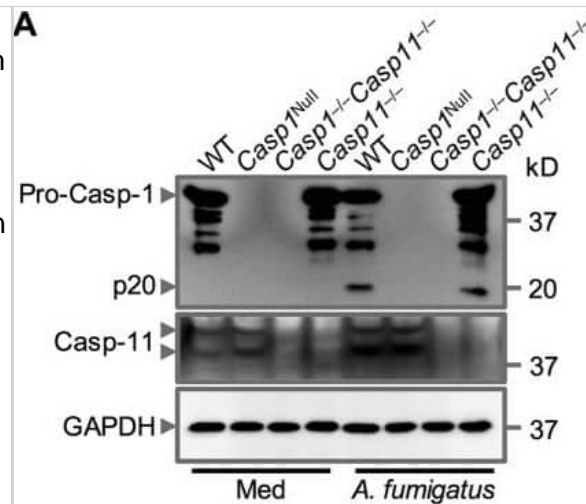
Western Blot: Caspase-11 Antibody (17D9) - BSA Free [NB120-10454] - Caspase-11 is expressed in Casp1Null bone marrow-derived macrophages. Immunoblot analysis of caspase-1, caspase-11 & GAPDH (loading control) in unprimed WT or mutant BMDMs at various times (above lane) after stimulation with IFN- β (250U/ml), IFN- γ (100 ng/ml) or LPS (100 ng/ml). Data are representative of two independent experiments. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/28345580>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



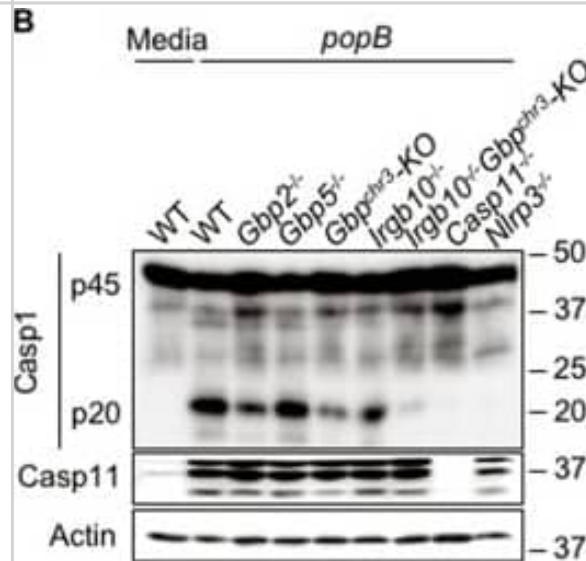
Immunohistochemistry: Caspase-11 Antibody (17D9) - BSA Free [NB120-10454] - Immunocytochemistry analysis of histone induced activations of caspase 1, caspase 3, & NLRP3 (400 \times). BMECs were cultured briefly on cover glasses (pre-treated with poly-L -lysine, 0.1 mg/mL, Sigma-Aldrich) & incubated with histone (50 & 100 μ g/mL) for 16 h. The samples were visualized with DAB, counterstained with hematoxylin & observed by inverted microscope. Three independent experiments were carried out by light microscope analyses. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31156617>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



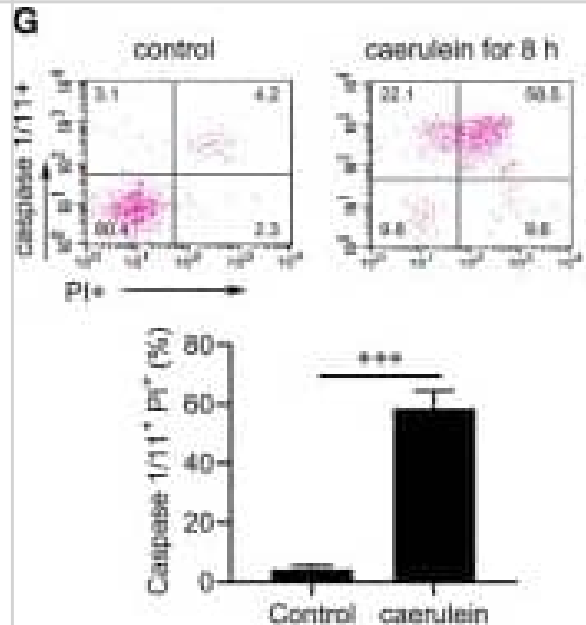
Western Blot: Caspase-11 Antibody (17D9) - BSA Free [NB120-10454] - Differential roles of caspase-1 & caspase-11 in response to infection with *Aspergillus fumigatus*. (A) Immunoblot analysis of pro-caspase-1 (Pro-Casp-1) & the caspase-1 subunit p20 (Casp-1 p20) & GAPDH (loading control) in unprimed WT or mutant bone marrow-derived dendritic cells left untreated (medium alone [Med]) or assessed 20 h after infection with *A. fumigatus* (MOI, 10). (B) Release of IL-1 β & IL-18 after treatment as in (A). (C) Survival of 8-week-old WT & mutant mice infected with 5×10^5 *A. fumigatus* conidia after immunosuppression with cyclophosphamide & cortisone acetate. * $P < 0.05$, **** $P < 0.0001$ (log-rank test). Data are representative of two (C) or three independent experiments (A & B; mean & s.e.m. are representative of values from three independent experiments in B). Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/28345580>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: Caspase-11 Antibody (17D9) - BSA Free [NB120-10454] - GBP2 & IRGB10 regulates caspase-11 mediated non-canonical NLRP3 activation & pyroptosis. a Microscopic analysis of cell death in unprimed WT, Gbp2^{-/-}, Gbp5^{-/-}, Gbpchr3-KO, Irgb10^{-/-}, Irgb10^{-/-}Gbpchr3-KO, Caspase11^{-/-} & Nlrp3^{-/-} BMDMs infected with popB (MOI 10) for 16 h. (Scale, 15 μ m). Arrow heads indicate pyroptotic cells. b–e Immunoblot analysis of caspase-1, IL-1 β , IL-18, & IL-6 release in WT, Gbp2^{-/-}, Gbp5^{-/-}, Gbpchr3-KO, Irgb10^{-/-}, Irgb10^{-/-}Gbpchr3-KO, Caspase11^{-/-} & Nlrp3^{-/-} BMDMs infected with popB (MOI10). f Bacterial CFU in unprimed WT, Gbp2^{-/-}, Gbp5^{-/-}, Gbpchr3-KO, Irgb10^{-/-}, Irgb10^{-/-}Gbpchr3-KO, Caspase11^{-/-} & Nlrp3^{-/-} BMDMs infected with popB (MOI10), 4 h & 16 h. Data are representative of three independent experiments. ns-not significant, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, **** $p < 0.0001$ (two-tailed T test) Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/30062052>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Flow Cytometry: Caspase-11 Antibody (17D9) - BSA Free [NB120-10454] - The expression of circHIPK3 in serum samples of patients with AP & in caerulein-stimulated pancreatic acinar cells. (A) QPCR was performed to detect circHIPK3 expression in serum samples of patients with AP & healthy subjects. MAP, mild acute pancreatitis; SAP, severe Acute Pancreatitis. (B) CCK8 assay was performed to measure the cell viability in AR42J cells after caerulein treatment. (C) Levels of inflammatory cytokines IL-1 β , IL-6, IL-8, & TNF- α were measured by ELISA kits in culture medium after caerulein treatment. (D) Amylase activity was measured by ELISA kit in AR42J cells after caerulein treatment. (E) The pyroptosis-related proteins caspase 1 & caspase 11 were analyzed by immunoblot in AR42J cells after caerulein treatment. (F) PI staining was performed in AR42J cells after caerulein treatment, & the PI-positive cells were counted. (G) Flow-cytometric analysis of caspase-1/11+PI+ cells in AR42J cells after caerulein treatment. Data are presented as a representative plot (upper) & quantified percentages (lower). (H) circHIPK3 expression was determined by qPCR in AR42J cells after caerulein treatment. * $p < 0.05$. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/32318575>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Xia C, Liang F, Li J et al. Identification of the pyroptosis, apoptosis, and necroptosis (PANoptosis) involved in osteogenic differentiation inhibition impaired by tumor necrosis factor- α . *European journal of medical research* 2025-07-02 [PMID: 40597297]

Tan C, Ma H, Chen J et al. Critical Role of IL1R2 \square ENO1 Interaction in Inhibiting Glycolysis \square Mediated Pyroptosis for Protection Against Lethal Sepsis *Advanced Science* 2025-07-24 [PMID: 40704655]

Daily KP, Badr A, Eltobgy M et al. DNA hypomethylation promotes the expression of CASPASE-4 which exacerbates neuroinflammation and amyloid- β deposition in Alzheimer's disease *The Ohio State University College of Medicine bioRxiv* 2023-09-01 [PMID: 37693600] (Immunohistochemistry, Immunoprecipitation, Western Blot, Mouse)

Li F, Li Y, Liang H et al. HECTD3 mediates TRAF3 polyubiquitination and type I interferon induction during bacterial infection *J. Clin. Invest.* 2018-06-19 [PMID: 29920190] (Immunohistochemistry, Immunoprecipitation, Western Blot, Mouse)

Guo Y, Mao R, Xie Q et al. Francisella novicida Mutant XWK4 Triggers Robust Inflammasome Activation Favoring Infection *Frontiers in Cell and Developmental Biology* 2021-11-18 [PMID: 34869331] (Immunohistochemistry, Immunoprecipitation, Western Blot, Mouse)

Karki R, Sharma BR, Tuladhar S et al. Synergism of TNF- β and IFN- β triggers inflammatory cell death, tissue damage, and mortality in SARS-CoV-2 infection and cytokine shock syndromes *bioRxiv* 2023-02-09 [PMID: 33140051] (Immunohistochemistry, Immunoprecipitation, Western Blot, Mouse)

Lin WY, Li LH, Hsiao YY et al. Repositioning of the Angiotensin II Receptor Antagonist Candesartan as an Anti-Inflammatory Agent With NLRP3 Inflammasome Inhibitory Activity *Frontiers in Immunology* 2022-05-20 [PMID: 35669789] (Immunohistochemistry, Immunoprecipitation, Western Blot, Mouse)

Sakaguchi N, Sasai M, Bando H et al. Role of Gate-16 and Gabarap in Prevention of Caspase-11-Dependent Excess Inflammation and Lethal Endotoxic Shock *Frontiers in Immunology* 2020-09-15 [PMID: 33042141] (Immunohistochemistry, Immunoprecipitation, Western Blot, Mouse)

Xu L, Peng F, Luo Q, Ding Y et al. IRE1 β silences dsRNA to prevent taxane-induced pyroptosis in triple-negative breast cancer *Cell* 2024-10-17 [PMID: 39419025]

Ha, J;Kim, M;Park, JS;Lee, Y;Lee, JY;Shin, JC;Seo, D;Park, SS;You, J;Jung, SM;Kim, HY;Mizuno, S;Takahashi, S;Kim, SJ;Park, SH; SERTAD1 initiates NLRP3-mediated inflammasome activation through restricting NLRP3 polyubiquitination *Cell reports* 2024-02-10 [PMID: 38341852]

Ma C, Huang J, Jiang Y et al. Gasdermin D in macrophages drives orchitis by regulating inflammation and antigen presentation processes *EMBO Mol Med* 2024-01-02 [PMID: 38177538]

Yu Q, Yang Y, Xu T et al. Palmitoleic acid protects microglia from palmitate-induced neurotoxicity in vitro *PLoS One* 2024-01-19 [PMID: 38241239]

More publications at <http://www.novusbio.com/NB120-10454>

Procedures

Western Blot Protocol for Caspase-11 Antibody (NB120-10454)

Western Blot Protocol

1. Perform SDS-PAGE on samples to be analyzed, loading 10-25 ug of total protein per lane.
2. Transfer proteins to PVDF membrane according to the instructions provided by the manufacturer of the membrane and transfer apparatus.
3. Stain the membrane with Ponceau S (or similar product) to assess transfer success, and mark molecular weight standards where appropriate.
4. Rinse the blot TBS -0.05% Tween 20 (TBST).
5. Block the membrane in 5% Non-fat milk in TBST (blocking buffer) for at least 1 hour.
6. Wash the membrane in TBST three times for 10 minutes each.
7. Dilute primary antibody in 1% BSA and incubate overnight at 4C with gentle rocking.
8. Wash the membrane in TBST three times for 10 minutes each.
9. Incubate the membrane in diluted HRP conjugated secondary antibody in blocking buffer (as per manufacturer's instructions) for 1 hour at room temperature.
10. Wash the blot in TBST three times for 10 minutes each (this step can be repeated as required to reduce background).
11. Apply the detection reagent of choice in accordance with the manufacturer's instructions.

Immunocytochemistry/ Immunofluorescence Protocol for Caspase-11 Antibody (NB120-10454)

Immunocytochemistry Protocol

Culture cells to appropriate density in 35 mm culture dishes or 6-well plates.

1. Remove culture medium and wash the cells briefly in PBS. Add 10% formalin to the dish and fix at room temperature for 10 minutes.
2. Remove the formalin and wash the cells in PBS.
3. Permeabilize the cells with 0.1% Triton X100 or other suitable detergent for 10 min.
4. Remove the permeabilization buffer and wash three times for 10 minutes each in PBS. Be sure to not let the specimen dry out.
5. To block nonspecific antibody binding, incubate in 10% normal goat serum from 1 hour to overnight at room temperature.
6. Add primary antibody at appropriate dilution and incubate overnight at 4C.
7. Remove primary antibody and replace with PBS. Wash three times for 10 minutes each.
8. Add secondary antibody at appropriate dilution. Incubate for 1 hour at room temperature.
9. Remove secondary antibody and replace with PBS. Wash three times for 10 minutes each.
10. Counter stain DNA with DAPI if required.





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Products Related to NB120-10454

NBP3-11853	Jurkat Staurosporine Treated / Untreated Cell Lysate
NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF005	Goat anti-Rat IgG Secondary Antibody [HRP]
NB7115	Goat anti-Rat IgG (H+L) Secondary Antibody [HRP]
NBP2-21947-0.1mg	Rat IgG2a Isotype Control (2A3)

Limitations

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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