Product Datasheet

Clostridium Difficile Toxin A Antibody (PCG4.1) - BSA Free
NB600-1066-0.1mg

Unit Size: 0.1 mg

Store at 4C short term. Aliquot and store at -80C long term. Avoid freeze-thaw cycles.

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Publications: 24

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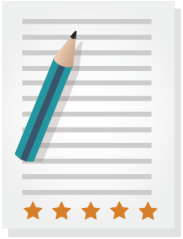
Updated 9/9/2025 v.20.1



NB600-1066-0.1mg

Clostridium Difficile Toxin A Antibody (PCG4.1) - BSA Free

Product Information

Unit Size	0.1 mg
Concentration	1.16 mg/ml
Storage	Store at 4C short term. Aliquot and store at -80C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	PCG4.1
Preservative	0.05% Sodium Azide
Isotype	IgG2a Kappa
Purity	Protein A purified
Buffer	10mM Sodium Phosphate (pH 7.4) and 0.15M NaCl

Product Description

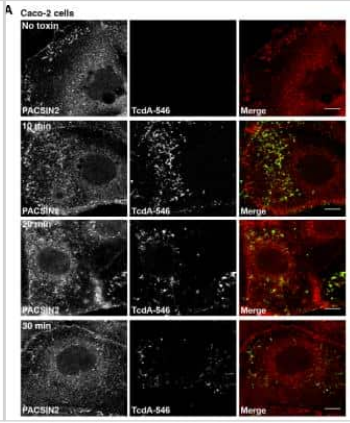
Description	Novus Biologicals Mouse Clostridium Difficile Toxin A Antibody (PCG4.1) - BSA Free (NB600-1066) is a monoclonal antibody validated for use in WB, ELISA and ICC/IF. Anti-Clostridium Difficile Toxin A Antibody: Cited in 23 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Mouse
Species	Bacteria
Specificity/Sensitivity	C. difficile Toxin A. Does not cross react with C. difficile Toxin B.
Immunogen	Full length protein A (C. difficile).

Product Application Details

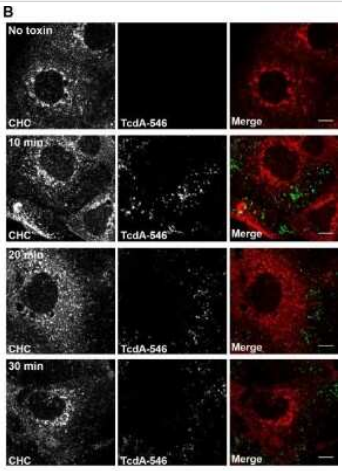
Applications	Western Blot, ELISA, Immunocytochemistry/ Immunofluorescence
Recommended Dilutions	Western Blot 1:100-1:2000, ELISA 1:100-1:2000, Immunocytochemistry/ Immunofluorescence
Application Notes	WB reactivity reported in (PMID: 28346491). Works with stool samples.

Images

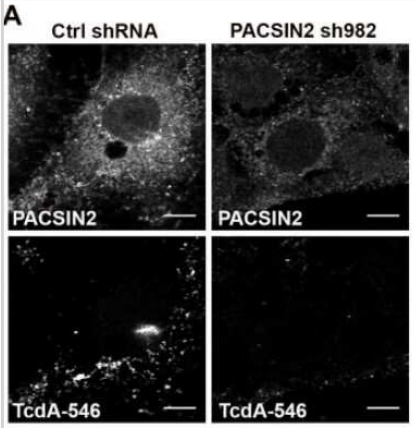
Immunocytochemistry/Immunofluorescence: Clostridium Difficile Toxin A Antibody (PCG4.1) [NB600-1066] - TcdA colocalizes with PACSIN2 during entry in Caco-2 cells. Immunofluorescence assays were performed as described in Fig 1B. At indicated time points, cells were fixed, stained for PACSIN2 and analyzed by confocal microscopy. Merged images show PACSIN2 in red, toxin in green and colocalization in yellow. The images shown are representative of multiple fields imaged from three independent experiments. Image collected and cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.ppat.1006070), licensed under a CC-BY license.



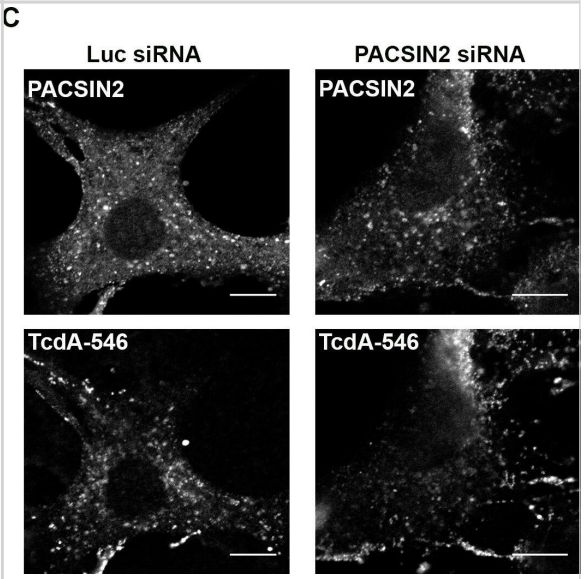
Immunocytochemistry/Immunofluorescence: Clostridium Difficile Toxin A Antibody (PCG4.1) [NB600-1066] - TcdA and TcdB utilize distinct endocytic mechanisms to intoxicate colonic epithelial cells. TcdA does not colocalize with clathrin heavy chain during cell entry. Caco-2 cells on glass coverslips were chilled at 10C for 45 min and then exposed to media containing 50 nM TcdA-546 or buffer (no toxin control). The toxin was allowed to bind to cells for 45 min at 10C. Unbound toxin was removed, and cells were shifted to 37C to allow internalization of toxin for the times shown. At each time point, cells were washed once with pre-warmed PBS, fixed and stained for CHC, and imaged by confocal microscopy. Merged images show clathrin in red and toxin in green. Image collected and cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.ppat.1006070), licensed under a CC-BY license.



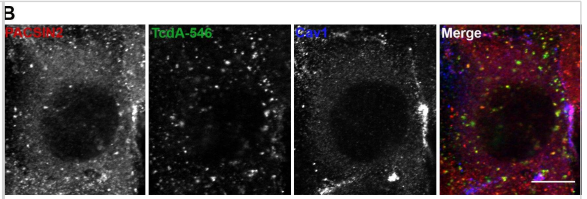
Immunocytochemistry/Immunofluorescence: Clostridium Difficile Toxin A Antibody (PCG4.1) [NB600-1066] - Depletion of PACSIN2 inhibits TcdA entry in Caco-2 cells. Caco-2 cells expressing non-targeting shRNA (Ctrl shRNA) or shRNA 982 targeting PACSIN2 were incubated with 50 nM TcdA-546 at 10C for 45 min. Unbound toxins were removed and cells were shifted to 37C to allow internalization. After 20 min, cells were washed, fixed, stained for PACSIN2 and imaged by confocal microscopy. PACSIN2 and TcdA staining from ctrl shRNA and sh982 expressing cells are shown. The images shown are representative of multiple fields imaged from three independent experiments. Image collected and cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.ppat.1006070), licensed under a CC-BY license.



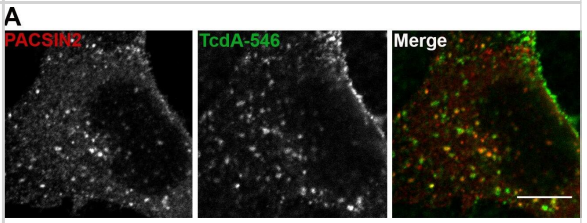
Immunocytochemistry/ Immunofluorescence: Clostridium Difficile Toxin A Antibody (PCG4.1) - BSA Free [NB600-1066] - PACSIN2 is required for TcdA uptake & toxin-induced rounding in wildtype MEF cells. (C), (D) & (E). Depletion of PACSIN2 reduces TcdA uptake in MEF cells. Wildtype MEF cells expressing luciferase (luc) or PACSIN2 siRNA incubated with 50 nM TcdA-546 at 10°C for 45 min. Cells allowed to warm up to 37°C for 2 min & then washed to remove unbound toxins & incubated with fresh media prewarmed to 37°C. Bound toxins allowed to internalize for 9 min at 37°C. Cells then fixed, stained for PACSIN2 & imaged by confocal microscopy. PACSIN2 & TcdA-546 staining from each condition shown in (C). Scale bars, 10 µm. The images shown representative of multiple fields imaged from two independent experiments. (D) Comparison of mean fluorescence intensities of PACSIN2 between luc & PACSIN2 siRNA transfected cells. Data represent mean & SD of 101 individual cells. Student's t test ***p<0.0001. (E) Comparison of mean fluorescence intensities of TcdA-546 between luc & PACSIN2 siRNA transfected cells. Data represent mean & SD of 101 individual cells. Student's t test ***p<0.0001. Cells chosen at random for intensity analyses. Image collected & cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.ppat.1006070), licensed under a CC0-1.0 license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: Clostridium Difficile Toxin A Antibody (PCG4.1) - BSA Free [NB600-1066] - TcdA colocalizes with PACSIN2 in wildtype MEF cells.(A) Wildtype MEFs on glass coverslips were allowed to bind 50 nM TcdA-546 for 45 min at 10°C, & cells were shifted to 37°C to allow internalization of toxin for 3 min. Cells were fixed, stained for PACSIN2, & analyzed by confocal microscopy. Merged images show PACSIN2 in red, toxin in green, & colocalization in yellow. Scale bars, 10 µm. The images shown are representative of multiple fields imaged from two independent experiments. (B) Immunofluorescence assays were performed as described in (A), but cells were stained for cav1 in addition to PACSIN2. Merged images show PACSIN2 in red, toxin in green, & cav1 in blue. Yellow puncta in merged images denote TcdA- & PACSIN2-positive structures. Pink punta denote caveolae-associated PACSIN2. Scale bars, 10 µm. (C) Pearson's correlation coefficient to assess the extent of colocalization between PACSIN2, cav1 & TcdA-546 after 3 min toxin uptake. Data represent mean & SD of 31 individual cells chosen at random. Image collected & cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.ppat.1006070), licensed under a CC0 -1.0 license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: Clostridium Difficile Toxin A Antibody (PCG4.1) - BSA Free [NB600-1066] - TcdA colocalizes with PACSIN2 in wildtype MEF cells.(A) Wildtype MEFs on glass coverslips were allowed to bind 50 nM TcdA-546 for 45 min at 10°C, & cells were shifted to 37°C to allow internalization of toxin for 3 min. Cells were fixed, stained for PACSIN2, & analyzed by confocal microscopy. Merged images show PACSIN2 in red, toxin in green, & colocalization in yellow. Scale bars, 10 µm. The images shown are representative of multiple fields imaged from two independent experiments. (B) Immunofluorescence assays were performed as described in (A), but cells were stained for cav1 in addition to PACSIN2. Merged images show PACSIN2 in red, toxin in green, & cav1 in blue. Yellow puncta in merged images denote TcdA- & PACSIN2-positive structures. Pink punta denote caveolae-associated PACSIN2. Scale bars, 10 µm. (C) Pearson's correlation coefficient to assess the extent of colocalization between PACSIN2, cav1 & TcdA-546 after 3 min toxin uptake. Data represent mean & SD of 31 individual cells chosen at random. Image collected & cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.ppat.1006070), licensed under a CC0 -1.0 license. Not internally tested by Novus Biologicals.



Publications

Ahmed UKB, Shadid TM, Larabee JL, Ballard JD. Combined and Distinct Roles of Agr Proteins in Clostridioides difficile 630 Sporulation, Motility, and Toxin Production mBio 2021-01-14 [PMID: 33443122]

Nabukhotna, K;Kordus, SL;Shupe, JA;Cano Rodríguez, R;Smith, A;Bohannon, JK;Washington, MK;Lacy, DB; Purified CDT toxins and a clean deletion within the CDT locus provide novel insights into the contribution of binary toxin in cellular inflammation and Clostridioides difficile infection PLoS pathogens 2024-09-19 [PMID: 39298531]

Wang S, Heuler J, Wickramage I, Sun X Genomic and Phenotypic Characterization of the Nontoxigenic Clostridioides difficile Strain CCUG37785 and Demonstration of Its Therapeutic Potential for the Prevention of C. difficile Infection Microbiology spectrum 2022-03-22 [PMID: 35315695] (ELISA, Bacteria)

Details:
Clostridioides difficile

Zhu D, Wang S, Sun X. FliW and CsrA Govern Flagellin (FliC) Synthesis and Play Pleiotropic Roles in Virulence and Physiology of Clostridioides difficile R20291 Frontiers in microbiology 2021-10-05 [PMID: 34675903]

Ahmed UKB The Accessory Gene Regulator (Agr) System and Regulatory Network in Clostridioides Difficile Thesis 1905-07-13

Zhu D, Patabendige HMLW, Tomlinson BR et al. Cwl0971, a novel peptidoglycan hydrolase, plays pleiotropic roles in Clostridioides difficile R20291 Environmental microbiology 2021-04-24 [PMID: 33893759]

Oliveira PH, Ribis JW, Garrett EM et al. Epigenomic characterization of Clostridioides difficile finds a conserved DNA methyltransferase that mediates sporulation and pathogenesis Nat Microbiol 2019-11-25 [PMID: 31768029] (WB, Bacteria)

Chandrasekaran R, Kenworthy AK, Lacy DB et al. Clostridium difficile Toxin A Undergoes Clathrin-Independent, PACSIN2-Dependent Endocytosis PLoS Pathog. 2016-12-11 [PMID: 27942025] (WB, Human)

Edwards AN, Krall EG, McBride SM RstA Regulation of Clostridioides difficile Toxin Production and Sporulation in Phenotypically Diverse Strains bioRxiv 2019-09-18 [PMID: 31659010] (WB, C. difficile)

Woods E, Edwards A, McBride S. The C. difficile clnRAB operon initiates adaptations to the host environment in response to LL-37 PLoS Pathog. [PMID: 30125334] (WB, Bacteria)

Anjuwon-Foster BR, Maldonado-Vazquez N, Tamayo R. Et al. Characterization of Flagellum and Toxin Phase Variation in Clostridioides difficile Ribotype 012 Isolates J Bacteriol 2018-05-09 [PMID: 29735765] (WB, Bacteria)

Details:
Citation using the DyLight 800 version of this antibody.

Edwards A, Anjuwon-Foster B, McBride S. RstA is a Major Regulator of Clostridioides difficile Toxin Production and Motility. bioRxiv 2018-09-13 [PMID: 30862746] (WB, Bacteria)

More publications at http://www.novusbio.com/NB600-1066

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HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB7539	Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP]
NBP1-96981-0.5mg	Mouse IgG2a Kappa Isotype Control (M2AK)

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