Product Datasheet

Podoplanin Antibody (8.1.1) - BSA Free
NB600-1015

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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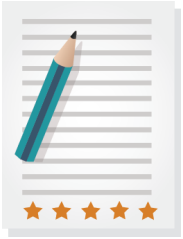
Updated 12/20/2023 v.20.1



NB600-1015

Podoplanin Antibody (8.1.1) - BSA Free

Product Information

Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	8.1.1
Preservative	0.02% Sodium Azide
Isotype	IgG
Purity	Protein G purified
Buffer	PBS
Target Molecular Weight	40 kDa

Product Description

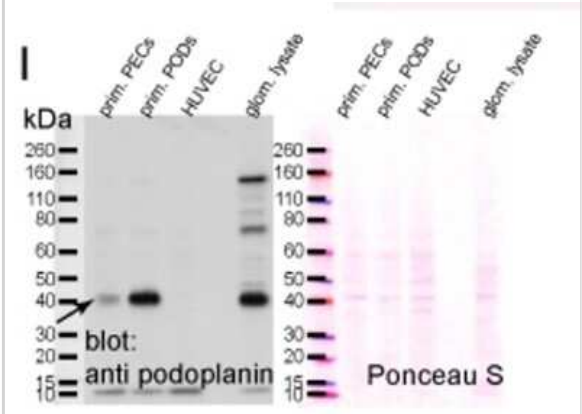
Host	Golden Syrian Hamster
Gene ID	10630
Gene Symbol	PDPN
Species	Mouse, Human (Negative)
Reactivity Notes	Does not cross-react with human.
Marker	Lymphatic Endothelium Marker
Immunogen	Murine thymic stromal cell lines

Product Application Details

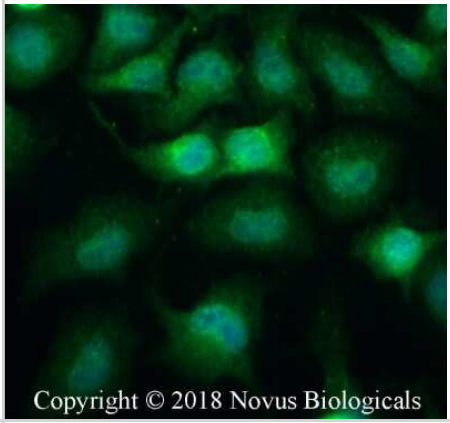
Applications	Western Blot, Electron Microscopy, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Immunoprecipitation, CyTOF-ready
Recommended Dilutions	Western Blot 1:1000-1:2000, Flow Cytometry 1:400, Immunohistochemistry 1:100-1:500, Immunocytochemistry/ Immunofluorescence 1-5ug/ml, Immunoprecipitation 1:10-1:500, Immunohistochemistry-Paraffin 1:100-1:500, Immunohistochemistry-Frozen, Electron Microscopy, CyTOF-ready
Application Notes	Optimal dilutions/concentrations should be determined by the end user. This antibody is CyTOF ready.

Images

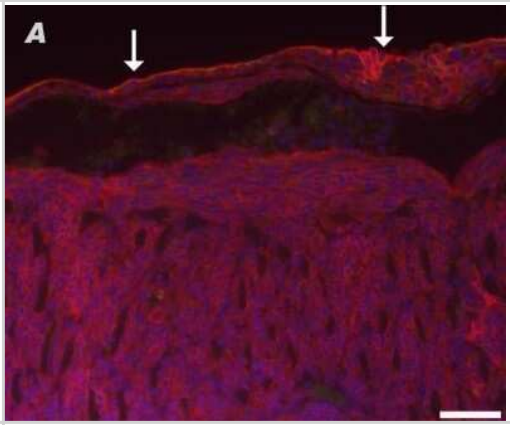
Western Blot: Podoplanin Antibody (8.1.1) - BSA Free [NB600-1015] - Podoplanin is differentially expressed in primary podocytes relative to primary PECs after six passages in culture (arrow), consistent with mRNA expression analysis. Lysates of isolated glomeruli are used as positive control. Image collected and cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/22529955) licensed under a CC-BY license.



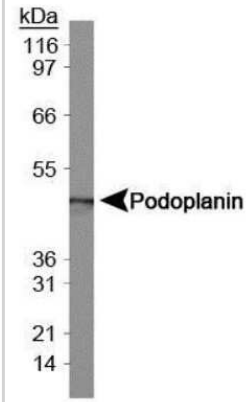
Immunocytochemistry/Immunofluorescence: Podoplanin Antibody (8.1.1) - BSA Free [NB600-1015] - Neuro2a cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X PBS + 0.05% Triton X-100. The cells were incubated with anti- at 5 ug/ml overnight at 4C and detected with an anti-Golden Syrian hamster DyLight 488 (Green) at a 1:500 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.



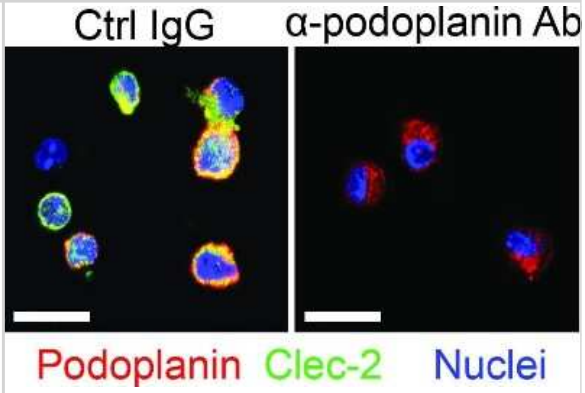
Immunohistochemistry-Paraffin: Podoplanin Antibody (8.1.1) - BSA Free [NB600-1015] - Staining for podoplanin (red) and cytokeratins (green) in malignant serosal tumors morphologically consistent with sarcomatous mesothelioma. In A, the lining mesothelium (solid arrows) stained positively for podoplanin in this double label immunofluorescent image of diaphragm. The cells beneath the mesothelial lining are also red due to expression of podoplanin and these are cells of a malignant serosal tumor. Promotion of lung adenocarcinoma following inhalation exposure to multi-walled carbon nanotubes. *Part Fibre Toxicol* (2014)



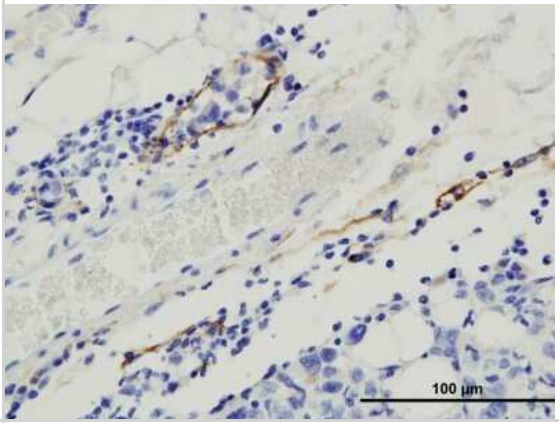
Western Blot: Podoplanin Antibody (8.1.1) - BSA Free [NB600-1015] - Analysis of Podoplanin in mouse kidney tissue extract.



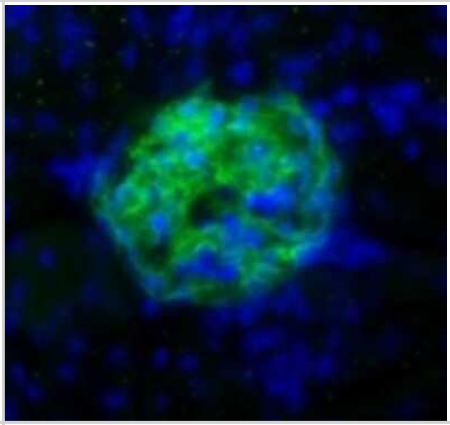
Immunocytochemistry/Immunofluorescence: Podoplanin Antibody (8.1.1) - BSA Free [NB600-1015] - Macrophages were isolated from wild-type (WT) mice treated with acetaminophen (APAP) for 3 hr. The cells were treated in vitro with either control IgG (Ctrl IgG) or an anti-podoplanin antibody (alpha-podoplanin Ab) before incubation with platelets. Immunofluorescence (IF) staining was performed to detect podoplanin on Macrophages and C-type lectin-like receptor 2 (Clec-2) on platelets. Scale bar, 25 um. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/34110284/) licensed under a CC-BY license.



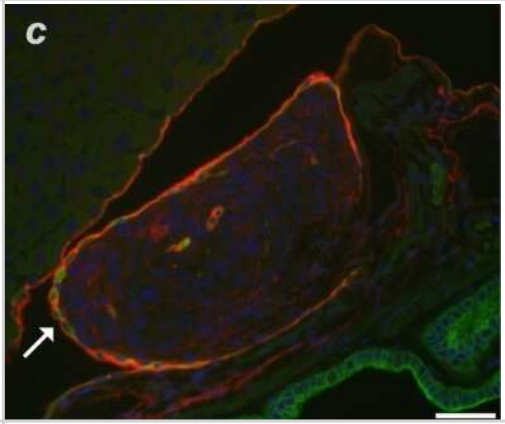
Immunohistochemistry-Paraffin: Podoplanin Antibody (8.1.1) - BSA Free [NB600-1015] - Analysis of Podoplanin in mouse mammary gland after MDA-MB-231 orthotopic transplantation. Image courtesy of product review by Luana Schito.



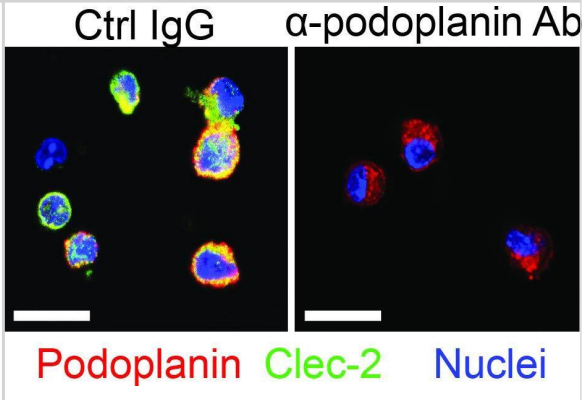
Immunohistochemistry: Podoplanin Antibody (8.1.1) - BSA Free [NB600-1015] - Podoplanin (8.1.1) antibody labeling (Green) of glomeruli from mouse kidney. Nuclei were counterstained with DAPI (Blue).



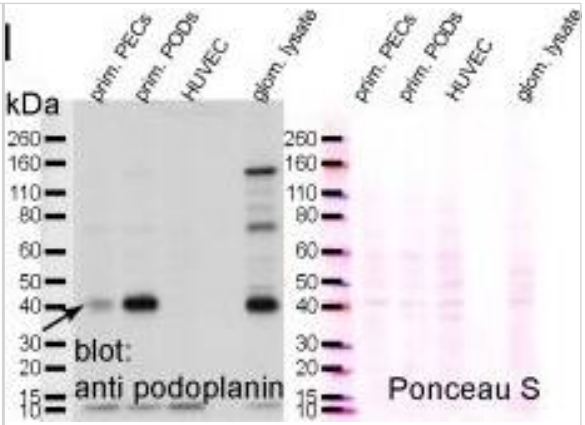
Immunohistochemistry-Paraffin: Podoplanin Antibody (8.1.1) - BSA Free [NB600-1015] - Staining for podoplanin (red) and cytokeratins (green) in malignant serosal tumors morphologically consistent with sarcomatous mesothelioma. In C, a double label immunofluorescent image demonstrates a malignant serosal tumor between the liver and gall bladder that is lined by reactive mesothelium (solid arrow) which stains red for podoplanin as well as green for cytokeratins. The cells of the subjacent malignant serosal tumor stain weakly red for podoplanin. Promotion of lung adenocarcinoma following inhalation exposure to multi-walled carbon nanotubes. *Part Fibre Toxicol* (2014)



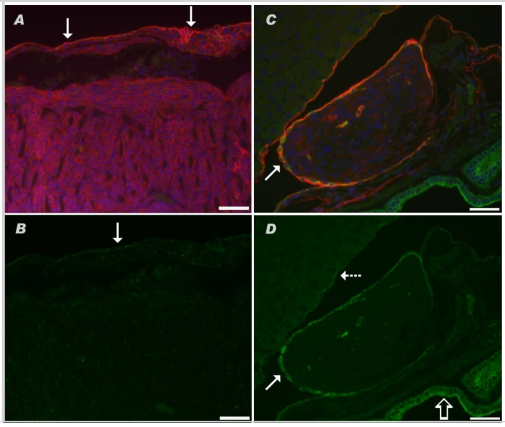
Podolanin expressing on Mϕs mediates interactions with platelets.Mϕs were isolated from wild-type (WT) mice treated with acetaminophen (APAP) for 3 hr. The cells were treated in vitro with either control IgG (Ctrl IgG) or an anti-podoplanin antibody (α-podoplanin Ab) before incubation with platelets. Immunofluorescence (IF) staining was performed to detect podoplanin on Mϕs and C-type lectin-like receptor 2 (Clec-2) on platelets. Scale bar, 25 µm.



Characterization of the primary PEC lines.PECs were negative for the endothelial marker von Willebrand factor (vWT, A) and for myofibroblast marker alpha-SMA (B). HUVECs (A') or human dermal fibroblasts (B') were used as positive controls. Polyclonal parietal cells were positive for claudin-1 (C) and caveolin-1 (D). C', D'. Negative controls were performed using isotype-matched irrelevant primary antibodies. E. A significantly lower expression of synaptopodin was observed in parietal cells expressed even after six passages compared to primary podocytes (E') or an immortalized podocyte cell line IHPC (E'). The findings were confirmed by SDS-page with subsequent immunoblotting using lysates of parietal cell cultures 2, 8 and 11 (F-H). Lysates of polyclonal primary podocyte cultures as well as of an immortalized podocyte cell line IHPC also showed expression of claudin-1 and calveolin-1. No expression of caveolin-1 was observed in Hel-1, GDM or Set-1 cell lines (G). Equal loading was verified by Ponceau S stain. H. Podocin expression is absent in primary PECs and down regulated in primary podocyte cells and in an immortalized podocyte cell line IHPC. I. Podoplanin is differentially expressed in primary podocytes relative to primary PECs after six passages in culture (arrow), consistent with mRNA expression analysis. Lysates of isolated glomeruli are used as positive control (H, I). Image collected and cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/22529955), licensed under a CC-BY licence.



SMC2 (a) and SMC4 (b) in HaCaT keratinocytes treated with control shRNA (upper panels) and treated with Nesprin-2-SMC domain specific shRNA (lower panels). Nesprin-2 was detected with mAb K20-478. Bar, 10 µm. (c) Localization of Nesprin-2 after siRNA mediated knockdown of SMC2 in COS7 cells. Staining was with SMC2 specific antibodies and mAb K20-478 for Nesprin-2. Bar, 5 µm. (d) Evaluation of the SMC2 knockdown. SMC2 fluorescence intensity was measured in the center of mitotic chromosomes. 10 siRNA treated cells and 12 control cells (control treatment) were analyzed (□□□P value = 0.0001). Image collected and cropped by CiteAb from the following open publication (https://pubmed.ncbi.nlm.nih.gov/29445399), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Guo L, Bao W, Yang S et al. Rhei Radix et Rhizoma in Xuanbai-Chengqi decoction strengthens the intestinal barrier function and promotes lung barrier repair in preventing severe viral pneumonia induced by influenza A virus Journal of ethnopharmacology 2023-09-30 [PMID: 37783404] (IHC-P, Mouse)

Details:
1:100 dilution

Tang AT, Buchholz DW, Szigety KM et al. Cell-autonomous requirement for ACE2 across organs in lethal mouse SARS-CoV-2 infection PLoS biology 2023-02-01 [PMID: 36745682] (IHC, Mouse)

Fraser K, Hubbs A, Yanamala N et al. Histopathology of the broad class of carbon nanotubes and nanofibers used or produced in U.S. facilities in a murine model Particle and fibre toxicology 2021-12-20 [PMID: 34923995] (IHC-P, Mouse)

Shan Z, Li L, Atkins CL et al. Chitinase 3-like-1 contributes to acetaminophen-induced liver injury by promoting hepatic platelet recruitment eLife 2021-06-10 [PMID: 34110284] (IHC-P, Mouse)

Asfahani RI, Tahoun MM, Miller-Hodges EV et al. Activation of podocyte Notch mediates early Wt1 glomerulopathy. kidney Int. 2018-04-01 [PMID: 29398135] (ICC/IF, Mouse)

Neto LMM, Zufelato N, de Sousa-Junior AA et al. Specific T cell induction using iron oxide based nanoparticles as subunit vaccine adjuvant Hum Vaccin Immunother 2018-06-18 [PMID: 29913109] (Mouse)

Jia Y, Chen K, Lin P et al. Treatment of acute lung injury by targeting MG53-mediated cell membrane repair. Nat Commun 2014-07-18 [PMID: 25034454] (IHC-P, Mouse)

Details:
Podoplanin/AT1 alpha antibody used in IHC-P as a specific cell marker for type I alveolar epithelial cells in lungs of wild-type and mg53-/- mice - tissue fixed in 4% neutral-buffered paraformaldehyde for 24 hous at 4C, paraffin blocks cut into 4um sections, staining detection with IF labelled secondary (Figure 1e and 1f; Supplementary Figure 2).

Sargent LM, Porter DW, Staska LM et al. Promotion of lung adenocarcinoma following inhalation exposure to multi-walled carbon nanotubes. Part Fibre Toxicol 2014-01-15 [PMID: 24405760] (IHC-P, Mouse)

Porter DW, Hubbs AF, Mercer RR et al. Mouse pulmonary dose- and time course-responses induced by exposure to multi-walled carbon nanotubes. Toxicology 2010-03-10 [PMID: 19857541] (ICC/IF, IF/IHC, Mouse)

Kabgani N, Grigoleit T, Schulte K, Sechi A, Sauer-Lehnen S, Tag C, Boor P, Kuppe C, Warsow G, Schordan S, Mostertz J, Chilukoti RK, Homuth G, Endlich N, Tacke F, Weiskirchen R, Fuellen G, Endlich K, Floege J, Smeets B, Moeller MJ. Primary cultures of glomerular parietal epithelial cells or podocytes with proven origin. PLoS One;7(4). 2012-01-01 [PMID: 22529955] (WB, Mouse)

Mahtab EA, Vicente-Steijn R, Hahurij ND, Jongbloed MR, Wisse LJ, DeRuiter MC, Uhrin P, Zaujec J, Binder BR, Schalij MJ, Poelmann RE, Gittenberger-de Groot AC. Podoplanin deficient mice show a RhoA-related hypoplasia of the sinus venosus myocardium including the sinoatrial node. Dev Dyn238(1):183-93. 2009-01-01 [PMID: 19097191]

Mahtab EA, Wijffels MC, Van Den Akker NM, Hahurij ND, Lie-Venema H, Wisse LJ, Deruiter MC, Uhrin P, Zaujec J, Binder BR, Schalij MJ, Poelmann RE, Gittenberger-De Groot AC. Cardiac malformations and myocardial abnormalities in podoplanin knockout mouse embryos: Correlation with abnormal epicardial development. Dev Dyn237(3):847-57. 2008-03-01 [PMID: 18265012]

More publications at http://www.novusbio.com/NB600-1015

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Products Related to NB600-1015

NB120-7141	Goat anti-Golden Syrian Hamster IgG (H+L) Secondary Antibody (Pre-adsorbed)
NBP1-97035-5mg	Golden Syrian Hamster IgG Isotype Control
NB600-1015B	Podoplanin Antibody (8.1.1) [Biotin]
NBC1-18511	Recombinant Human Podoplanin His Protein

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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