Product Datasheet

Protein Disulfide Isomerase/P4HB Antibody (RL90) NB300-517

Unit Size: 100 uL

Store at -20C. Avoid freeze-thaw cycles.

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Updated 10/23/2024 v.20.1

NB300-517

Protein Disulfide Isomerase/P4HB Antibody (RL90)

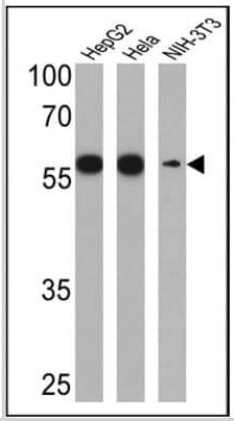
Product Information	
Unit Size	100 uL
Concentration	1 mg/ml
Storage	Store at -20C. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	RL90
Preservative	0.05% Sodium Azide
Isotype	IgG2a
Purity	Protein A purified
Buffer	PBS with 1 mg/ml BSA

Product Description	
Host	Mouse
Gene ID	5034
Gene Symbol	P4HB
Species	Human, Mouse, Rat, Porcine, Bovine, Hamster, Monkey, Primate, Rabbit
Reactivity Notes	Rabbit reactivity reported in scientific literature (PMID: 16150729). Bovine (PMID: 14592831). Primate (PMID: 20667829). Monkey reactivity reported in scientific literature (PMID: 27487388). Please note that this antibody is reactive to Mouse and derived from the same host, Mouse. Additional Mouse on Mouse blocking steps may be required for IHC and ICC experiments. Please contact Technical Support for more information.
Marker	Endoplasmic Reticulum Marker
Specificity/Sensitivity	NB300-517 detects Protein Disulfide Isomerase/P4HB from human, rat, porcine and mouse tissues as well as hamster cells.
Immunogen	Purified rat Protein Disulfide Isomerase/P4HB protein.

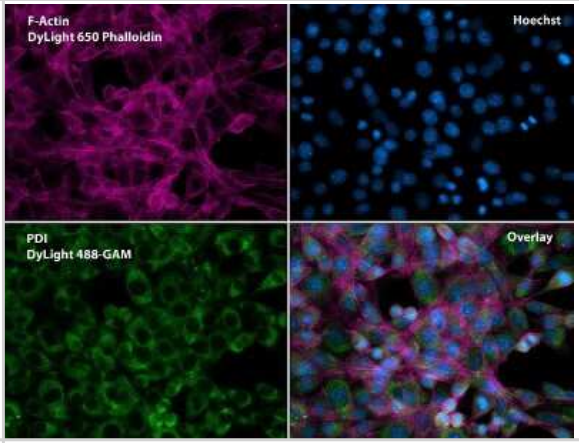
Product Application Details	
Applications	Western Blot, ELISA, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, Immunomicroscopy, Immunoprecipitation, Block/Neutralize, Knockdown Validated
Recommended Dilutions	Western Blot 1:1000, Flow Cytometry 1:10 - 1:1000, ELISA 1:100 - 1:2000, Immunohistochemistry 1:10 - 1:500, Immunocytochemistry/ Immunofluorescence 1:100, Immunoprecipitation 1:10 - 1:500, Immunohistochemistry-Paraffin 1:100, Immunohistochemistry-Frozen 1:100, Immunomicroscopy 1:10 - 1:500, Knockdown Validated, Block/Neutralize
Application Notes	IHC usage was reported in scientific literature (see Tanaka S, et al). ELISA assay reported in literature (see Kaetzel CS, et al). Flow Cytometry usage was reported in scientific literature (see Ryser HJ, et al). Blocking/Neutralization usage was reported in the literature (PMID:12791669 and PMID: 22013897)

Images

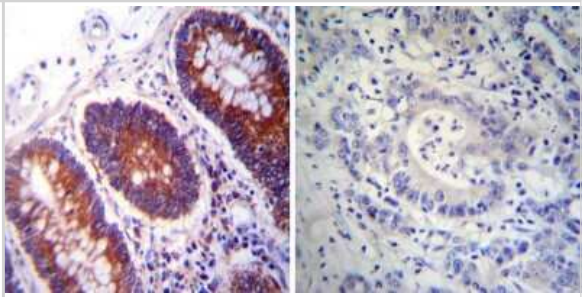
Western Blot: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Analysis of Protein Disulfide Isomerase/P4HB was performed by loading 25 ug of HepG2 (Lane 1), Hela (Lane 2) and NIH-3T3 (Lane 3) cell lysates.



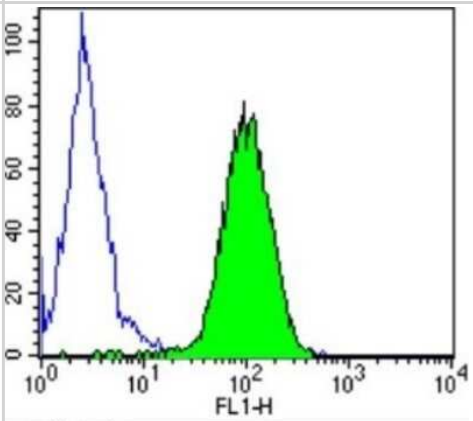
Immunocytochemistry/Immunofluorescence: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Staining of Phalloidin (purple) and PDI (green) in NIH 3T3 cells. Formalin fixed cells were permeabilized with 0.1% Triton X-100 in PBS for 10 minutes at room temperature and blocked with 2% BSA in PBS + 0.1% Triton X-100 for 30 minutes at room temperature. Cells were probed with a Protein Disulfide Isomerase/P4HB monoclonal antibody at a dilution of 1:75 for at least 1 hour at room temperature, washed with PBS, and incubated with DyLight 488 goat anti-mouse IgG secondary antibody at a dilution of 1:250 for 30 minutes at room temperature. Actin was stained with DyLight 650 Phalloidin at a dilution of 1:120 (2.5 units/ml final concentration) and nuclei (blue) were stained with Hoechst at a concentration of 1ug/ml for 30 minutes.

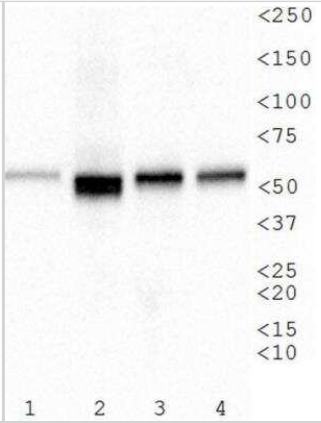
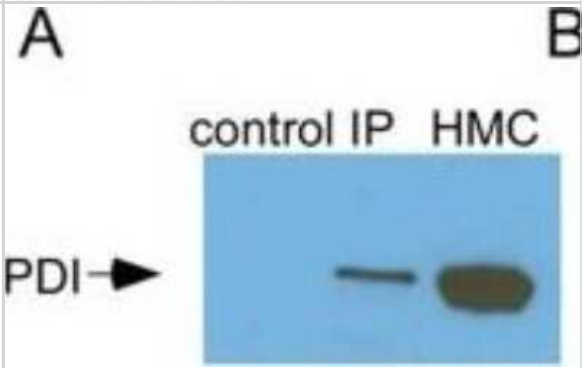
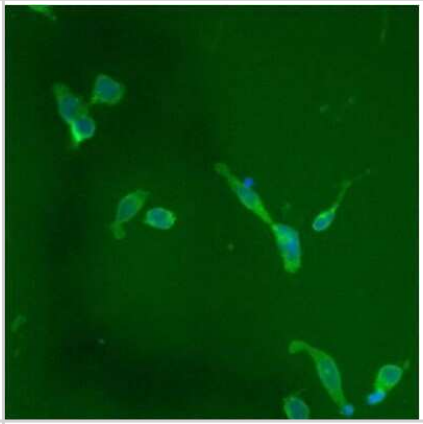
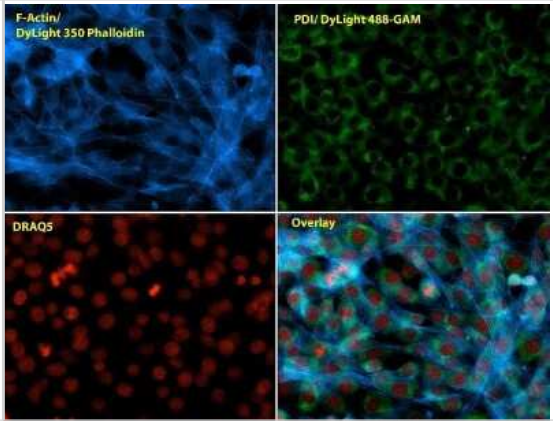


Immunohistochemistry-Paraffin: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Both normal and cancer biopsies of deparaffinized Human colon tissue tissues.

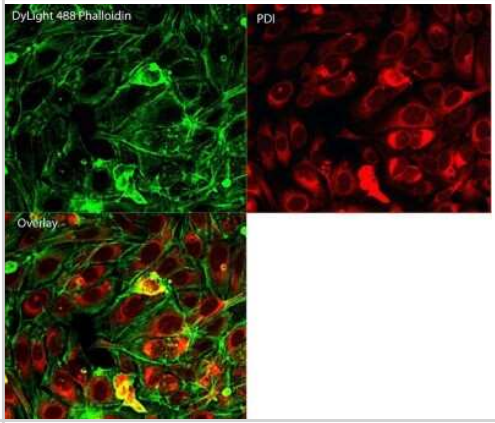


Flow Cytometry: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Analysis of Hela cells compared to an isotype control (blue).



Western Blot: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Analysis of PDIA2 expression in 1) human brain and 2) rat liver tissues extracts, 3) HeLa and 4) Hek 293 whole cell lysates.	
Western Blot: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Cell surface Protein Disulfide Isomerase/P4HB associated with GC-AC. Proteins were pulled down with anti GC-A antibody from HUVEC or HMC membrane preparations and detected with anti-Protein Disulfide Isomerase/P4HB antibody (RL90)compared to control IP (no anti GC-A) and non-immunoprecipitated proteins from HMC and HUVEC. Image collected and cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0112986), licensed under a CC-BY license.	
Immunocytochemistry/Immunofluorescence: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Staining in p19 Cells.	
Immunocytochemistry/Immunofluorescence: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Formalin fixed cells were permeabilized with 0.1% Triton X-100 in PBS for 10 minutes at room temperature and blocked with 2% BSA in PBS + 0.1% Triton X-100 for 30 minutes at room temperature. Cells were probed with a Protein Disulfide Isomerase/P4HB monoclonal antibody at a dilution of 1:75 for at least 1 hour at room temperature, washed with PBS, and incubated with Dylight 488 goat anti-mouse IgG secondary antibody at a dilution of 1:250 for 30 minutes at room temperature. Actin was stained with Dylight 350 Phalloidin at a dilution of 1:120 (2.5units/ml final concentration) and nuclei (red) were stained with DRAQ5 at a concentration of 1ug/ml for 30 minutes.	

Immunocytochemistry/Immunofluorescence: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Formalin fixed cells were permeabilized with 0.1% Triton X-100 in PBS for 10 minutes at room temperature and blocked with 2% BSA in PBS + 0.1% Triton X-100 for 30 minutes at room temperature. Cells were probed with a Protein Disulfide Isomerase/P4HB monoclonal antibody at a dilution of 1:75 for at least 1 hour at room temperature, washed with PBS, and incubated with DyLight 550 goat anti-mouse IgG secondary antibody at a dilution of 1:250 for 30 minutes at room temperature. Actin was stained with DyLight 488 Phalloidin at a dilution of 1:300 (1 unit/ml final concentration) for 30 minutes.



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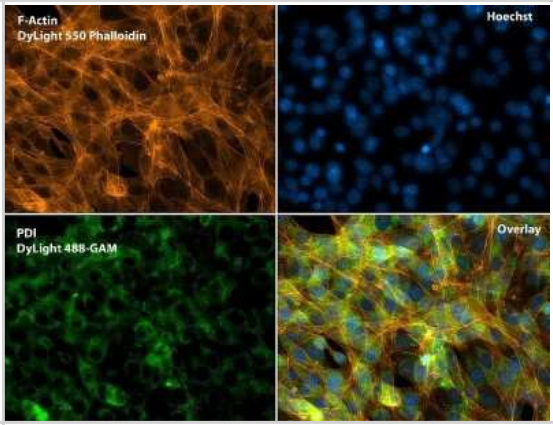
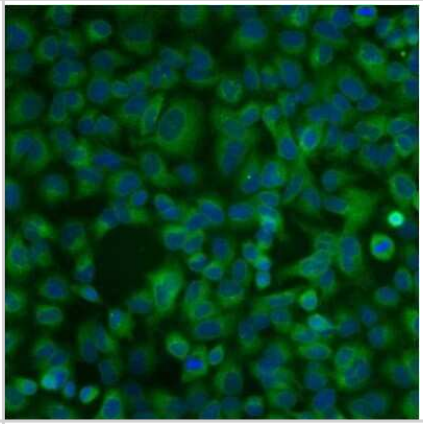
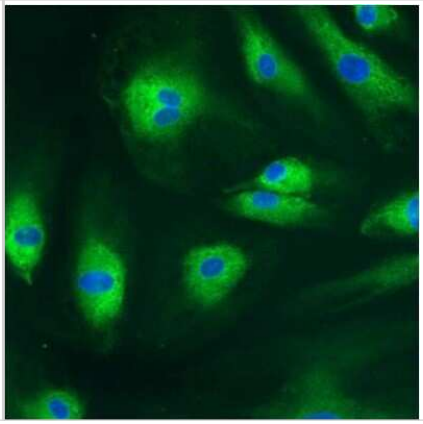


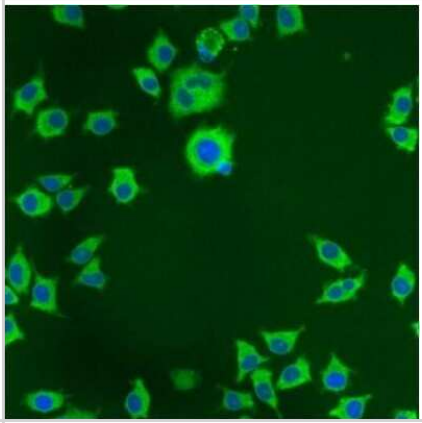
Immunocytochemistry/Immunofluorescence: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Staining in A549 Cells.



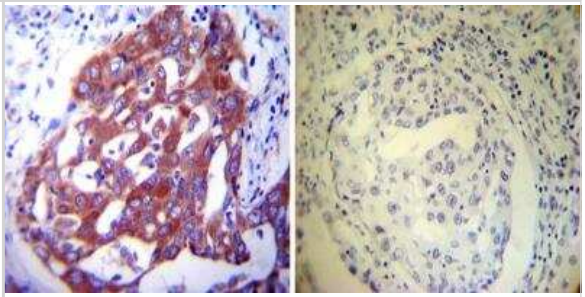
Immunocytochemistry/Immunofluorescence: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Staining in HMVEC Cells.



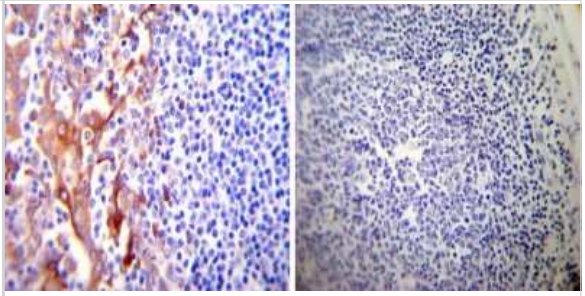
Immunocytochemistry/Immunofluorescence: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Staining in NS-1 Cells.



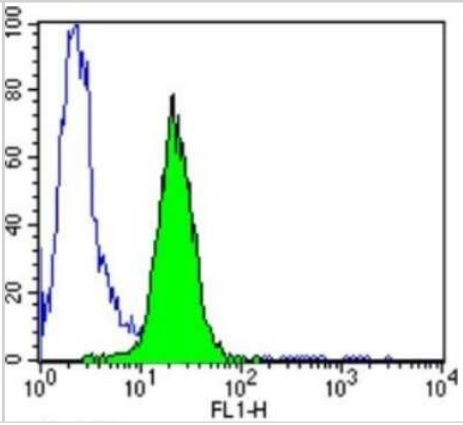
Immunohistochemistry-Paraffin: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Cancer biopsies of deparaffinized Human lung adenocarcinoma tissues.

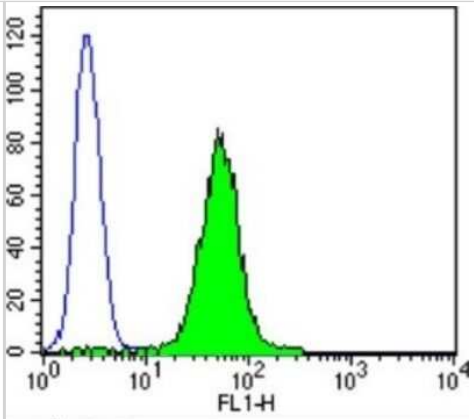
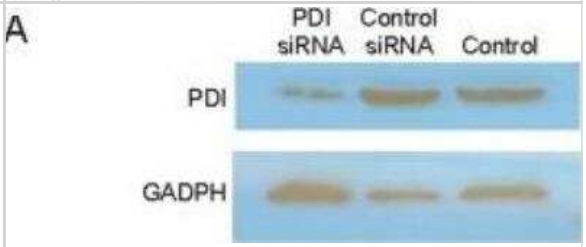
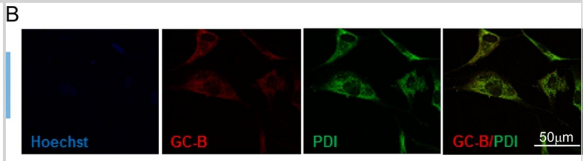
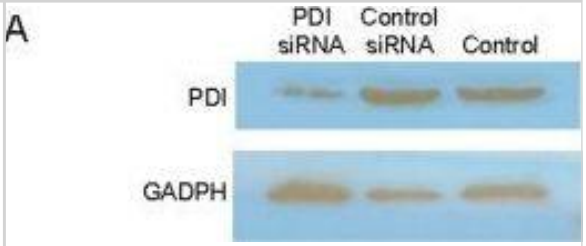


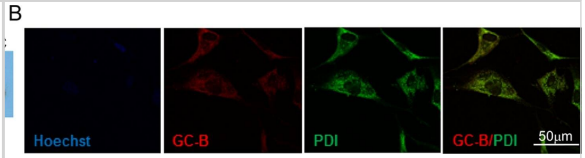
Immunohistochemistry-Paraffin: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Both normal and cancer biopsies of deparaffinized Human tonsil tissues.



Flow Cytometry: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Analysis of NIH/3T3 cells compared to an isotype control (blue).



Flow Cytometry: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Analysis of K562 cells compared to an isotype control (blue).	
Knockdown Validated: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Down regulated PDIA2 attenuates CNP-mediated cGMP activation in HMCs. Western blotting with RL90 antibody shows partial knockdown of Protein Disulfide Isomerase/P4HB in HMCs.	
Immunocytochemistry/ Immunofluorescence: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Cell surface PDI associated with GC-A & GC-B.A. & C. Proteins were pulled down with anti GC-A or anti GC-B antibodies from HUVEC or HMC membrane preparations & detected with anti-PDI antibody (RL90)compared to control IP (no anti GC-A or anti GC-B antibody) & non-immunoprecipitated proteins from HMC & HUVEC. B. Co-localization of PDI (red) & GC-A (green) in HUVEC. D. Co-localization of PDI (green) & GC-B (red) in HMC. Image collected & cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0112986), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	
Western Blot: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Down regulated PDI attenuates CNP-mediated cGMP activation in HMCs.A. Western blotting with RL90 antibody shows partial knockdown of PDI in HMCs. B. Effect of PDI knockdown on cGMP activation. Data are expressed as mean+SEM vs control cells without PDI siRNA treatment (*P≤0.05). C. PDI inhibition by RL90 decreases ANP, BNP & CNP-mediated cGMP generation in HMC (*p≤0.05). (Error bars, +SD from 3 independent experiments, samples were triplicated in each experiment). Image collected & cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0112986), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

Western Blot: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Cell surface PDI associated with GC-A & GC-B.A. & C. Proteins were pulled down with anti GC-A or anti GC-B antibodies from HUVEC or HMC membrane preparations & detected with anti-PDI antibody (RL90)compared to control IP (no anti GC-A or anti GC-B antibody) & non-immunoprecipitated proteins from HMC & HUVEC. B. Co-localization of PDI (red) & GC-A (green) in HUVEC. D. Co-localization of PDI (green) & GC-B (red) in HMC. Image collected & cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0112986), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	
Immunocytochemistry/ Immunofluorescence: Protein Disulfide Isomerase/P4HB Antibody (RL90) [NB300-517] - Cell surface PDI associated with GC-A & GC-B.A. & C. Proteins were pulled down with anti GC-A or anti GC-B antibodies from HUVEC or HMC membrane preparations & detected with anti-PDI antibody (RL90)compared to control IP (no anti GC-A or anti GC-B antibody) & non-immunoprecipitated proteins from HMC & HUVEC. B. Co-localization of PDI (red) & GC-A (green) in HUVEC. D. Co-localization of PDI (green) & GC-B (red) in HMC. Image collected & cropped by CiteAb from the following publication (https://dx.plos.org/10.1371/journal.pone.0112986), licensed under a CC-BY license. Not internally tested by Novus Biologicals.	

Publications

Avinash Kumar, Nicole Welch, Saurabh Mishra, Annette Bellar, Rafaella Nasciemento Silva, Ling Li, Shashi Shekhar Singh, Mary Sharkoff, Alexis Kerr, Aruna Kumar Chelluboyina, Jinendiran Sekar, Amy H. Attaway, Charles Hoppel, Belinda Willard, Gangarao Davuluri, Srinivasan Dasarathy Metabolic reprogramming during hyperammonemia targets mitochondrial function and postmitotic senescence JCI Insight 2021-12-22 [PMID: 34935641]

Peter T. A. Linders, Eveline C. F. Gerretsen, Angel Ashikov, Mari-Anne Vals, Rinse de Boer, Natalia H. Revelo, Richard Arts, Melissa Baerenfaenger, Fokje Zijlstra, Karin Huijben, Kimiyo Raymond, Kai Muru, Olga Fjodorova, Sander Pajusalu, Katrin Õunap, Martin ter Beest, Dirk Lefeber, Geert van den Bogaart Congenital disorder of glycosylation caused by starting site-specific variant in syntaxin-5 Nature Communications 2021-10-28 [PMID: 34711829]

Li Y, Kubo H, Yu D et al. Combining three independent pathological stressors induces a heart failure with preserved ejection fraction phenotype American journal of physiology. Heart and circulatory physiology 2023-04-01 [PMID: 36763506] (IHC-P, Mouse)

Details:
1:100 dilution

Stempels FC, Jiang M, Warner HM et al. Giant worm-shaped ESCRT scaffolds surround actin-independent integrin clusters The Journal of cell biology 2023-07-03 [PMID: 37200023] (ICC/IF, Human)

Lo M, Sharir A, Paul MD et al. CNPY4 inhibits the Hedgehog pathway by modulating membrane sterol lipids Nature communications 2022-05-03 [PMID: 35504891] (ICC/IF, Human)

Details:
Fig. 5a

Beckmann L, Rolling CC, VoigtlAnder M Et al. Bacitracin and Rutin Regulate Tissue Factor Production in Inflammatory Monocytes and Acute Myeloid Leukemia Blasts Cancers 2021-08-04 [PMID: 34439096]

Paardekooper LM, van Vroonhoven E, Ter Beest M, van den Bogaart G Radical Stress Is More Cytotoxic in the Nucleus than in Other Organelles Int J Mol Sci 2019-08-25 [PMID: 31450682] (WB, Human)

Liang D, Wu Y, Zhou L et al. LRP5 controls cardiac QT interval by modulating the metabolic homeostasis of L-type calcium channel. Int J Cardiol. [PMID: 30309679] (ICC/IF, Mouse)

Subramanian A, Capalbo A, Iyengar NR et al. Auto-regulation of Secretory Flux by Sensing and Responding to the Folded Cargo Protein Load in the Endoplasmic Reticulum Cell 2019-03-07 [PMID: 30849374] (ICC/IF, Human)

Zorin VL, Pulin AA, Eremin II et al. Myogenic potential of human alveolar mucosa derived cells Cell Cycle 2017-03-19 [PMID: 28118065] (ICC/IF, FLOW, Human)

Dosoki H, Stegemann A, Taha M et al. Targeting of NADPH oxidase in vitro and in vivo suppresses fibroblast activation and experimental skin fibrosis. Exp. Dermatol. 2016-08-30 [PMID: 27576129]

Walsh MT, Di Leo E, Okur I et al. Structure-function analyses of microsomal triglyceride transfer protein missense mutations in abetalipoproteinemia and hypobetalipoproteinemia subjects. Biochim. Biophys. Acta. 2016-07-31 [PMID: 27487388] (WB, Monkey)

More publications at http://www.novusbio.com/NB300-517

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Products Related to NB300-517

NB800-PC1	HeLa Whole Cell Lysate
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-96778	Mouse IgG2a Isotype Control (M2A)

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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