

# Product Datasheet

## PMCA4 Antibody (JA9) NB300-569

Unit Size: 100ug

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

[www.novusbio.com](http://www.novusbio.com)



[technical@novusbio.com](mailto:technical@novusbio.com)

**Reviews: 1** **Publications: 11**

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:  
[www.novusbio.com/NB300-569](http://www.novusbio.com/NB300-569)

Updated 9/9/2025 v.20.1

**Earn rewards for product  
reviews and publications.**

Submit a publication at [www.novusbio.com/publications](http://www.novusbio.com/publications)

Submit a review at [www.novusbio.com/reviews/destination/NB300-569](http://www.novusbio.com/reviews/destination/NB300-569)

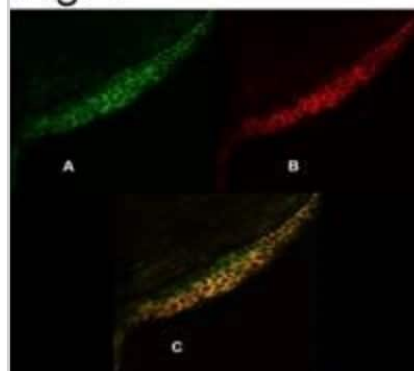


**NB300-569****PMCA4 Antibody (JA9)**

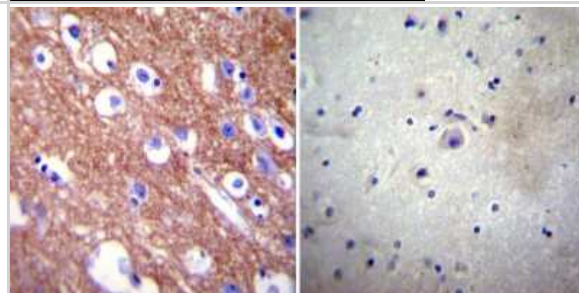
<b>Product Information</b>	
<b>Unit Size</b>	100ug
<b>Concentration</b>	1 mg/ml
<b>Storage</b>	Store at -20C. Avoid freeze-thaw cycles.
<b>Clonality</b>	Monoclonal
<b>Clone</b>	JA9
<b>Preservative</b>	0.05% Sodium Azide
<b>Isotype</b>	IgG1
<b>Purity</b>	Immunogen affinity purified
<b>Buffer</b>	PBS with 1 mg/ml BSA
<b>Product Description</b>	
<b>Description</b>	Novus Biologicals Mouse PMCA4 Antibody (JA9) (NB300-569) is a monoclonal antibody validated for use in IHC, WB, ELISA, Flow, ICC/IF and IP. Anti-PMCA4 Antibody: Cited in 11 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
<b>Host</b>	Mouse
<b>Gene ID</b>	493
<b>Gene Symbol</b>	ATP2B4
<b>Species</b>	Human, Mouse, Rat, Porcine, Amphibian, Bovine, Rabbit
<b>Reactivity Notes</b>	Mouse reactivity reported in scientific literature (PMID: 23845592). Rabbit reactivity reported in scientific literature (PMID: 21139678). Bovine reactivity reported in scientific literature (PMID: 23715721). Amphibian reactivity reported in scientific literature (PMID: 15236230). 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.
<b>Specificity/Sensitivity</b>	This is specific to the PMCA4 isoform.
<b>Immunogen</b>	Purified human erythrocyte PMCA.
<b>Product Application Details</b>	
<b>Applications</b>	Western Blot, Immunohistochemistry-Paraffin, ELISA, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Knockdown Validated
<b>Recommended Dilutions</b>	Western Blot 1:1000, Flow Cytometry 2 ug / 10 <sup>6</sup> cells, ELISA 1:15000, Immunohistochemistry 1:100 - 1:500, Immunocytochemistry/ Immunofluorescence 1:10 - 1:500, Immunohistochemistry-Paraffin 1:100 - 1:500, Immunohistochemistry-Frozen 1:100 - 1:500, Knockdown Validated
<b>Application Notes</b>	WB: Detects an approx. 133 and 129 kDA protein representing PMCA4a and PMCA4b ATPase respectively. May be useful in Flow.

**Images**

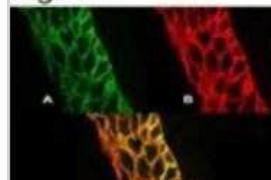
Immunocytochemistry/Immunofluorescence: PMCA4 Antibody (JA9) [NB300-569] - Immunolocalization of (A) PMCA4 (green), (B) CaSRO (red), and (C) Merged image.

**Fig. 1**

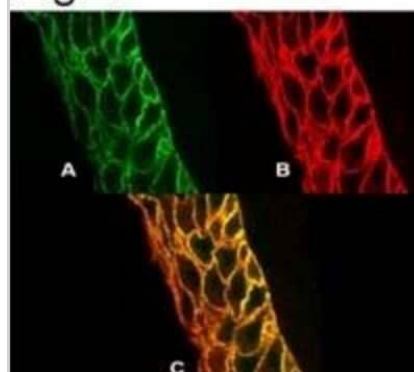
Immunohistochemistry-Paraffin: PMCA4 Antibody (JA9) [NB300-569] - Normal biopsies of deparaffinized Human brain tissue.



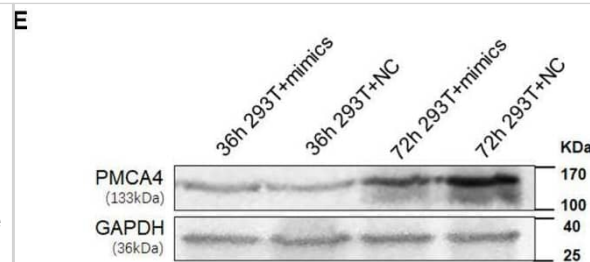
Immunocytochemistry/Immunofluorescence: PMCA4 Antibody (JA9) [NB300-569] - Figure 1 illustrates immunolocalization of PMCA4 and CaSRO in human corneal epithelium. (A) Immunolocalization of PMCA4 (green) using NB300-569 on cell membranes of all cells in each layer of hCE. (B) Immunolocalization of CaSRO (red) on cell membranes of hCE. (C) Merged image. Figure 2 illustrates immunolocalization of PMCA4 and CaSRO in bovine corneal epithelium (bCE). (A) Immunolocalization of PMCA4 (green) on cell membranes of all cells in each layer of bCE. (B) Immunolocalization of CaSRO (red) on cell membranes of bCE mostly in wing- and squamous cell layers. (C) Merged image.

**Fig. 1****Fig. 1**

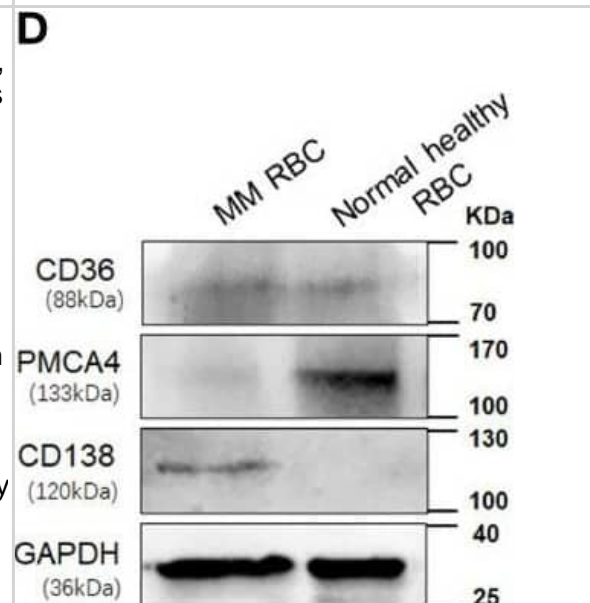
Immunocytochemistry/Immunofluorescence: PMCA4 Antibody (JA9) [NB300-569] - Immunolocalization of (A) PMCA4 (green), (B) CaSRO (red), and (C) Merged image.

**Fig. 1**

MiR-4261 can target and regulate the ATP2B4 gene and reduce the expression of PMCA4 protein. (A) Schematic diagram of the predicted miR-4261 binding site in the 3'-UTR of ATP2B4 mRNA. (B) Dual-luciferase reporter assay. The 3'-UTR fragments (wild-type and mutant sequences) of ATP2B4 were cloned into the psiCHECK-2 vector and then cotransfected with miR-4261 mimics or NC. Comparison of relative firefly/Renilla luciferase activity between the wild-type (WT) and negative control (NC) groups (PWT+mimics vs. WT+NC =  $1.9E-4$ , and PWT+mimics vs. MUT+mimics =  $1.4E-3$ ). (C) The content of miR-4261 in HEK293T cells 36, 48, and 72 hours after transfection of miR-4261 mimics ( $P = 2.7E-2$ ) and the endogenous content of miR-4261 in H929 cells and RPMI8226 cells. (D) The mRNA level of ATP2B4 was reduced by miR-4261, and the relative expression decreased most significantly at 72 hours after transfection (GAPDH was used as an internal control) ( $P = 3.6E-2$ ). (E, F) MiR-4261 reduced the protein level of ATP2B4 (GAPDH was used as an internal control) ( $P = 4.7E-2$ ). (Error bars represent the mean  $\pm$  SEM,  $*P < 0.05$ ). Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36091107>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Reduced expression of PMCA4 in RBCs of MM. (A, B) Indirect cellular immunofluorescence labeling of the surface of RBCs with PMCA4 (blue), RBC membrane with Did labeling (red), PMCA4 expression in MM RBCs is significantly reduced ( $P = 5.1E-03$ ). The white arrow indicates the stacking of RBCs (rouleaux formation) in MM (magnification, 60 $\times$ ). (C) Relative mRNA expression of ATPase plasma membrane Ca<sup>2+</sup> transport 4 (ATP2B4) in nucleated RBCs of MM bone marrow is significantly lower than that in the normal control group (GAPDH was used as an internal control) ( $P = 5.1E-03$ ). (D, E) The expression of PMCA4 in MM RBCs was significantly reduced ( $P = 5.1E-03$ ), and CD138 was expressed. (F) After the antibody-labeled RBCs reacted with the substrate BCIP/NBT, the dark blue NBT-formazan deposits in the erythrocyte membrane of MM reacting with PMCA4 protein content were significantly lower than those of the normal control group. (Error bars represent the mean  $\pm$  SEM,  $*P < 0.05$ ). Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/36091107>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



## Publications

Bian S, Zhang X, Lin L et al. Exosomal MiR-4261 mediates calcium overload in RBCs by downregulating the expression of ATP2B4 in multiple myeloma *Frontiers in Oncology* 2022-08-26 [PMID: 36091107]

Cong J, Liu P, Han Z, Ying W et al. Bile acids modified by the intestinal microbiota promote colorectal cancer growth by suppressing CD8(+) T cell effector functions *Immunity* 2024-03-13 [PMID: 38479384]

Hwang JY, Chai P, Nawaz S et al. LRRC23 truncation impairs radial spoke 3 head assembly and sperm motility underlying male infertility *bioRxiv : the preprint server for biology* 2023-06-10 [PMID: 36865175] (WB, Mouse)

### Details:

1 ug/ml dilution

Yeh YC, Lin YP, Kramer H, Parekh AB Single nucleotide polymorphisms in Orai1 associated with atopic dermatitis inhibit protein turnover, decrease calcium entry and disrupt calcium-dependent gene expression *Hum. Mol. Genet.* 2019-10-10 [PMID: 31600783] (WB, KD, IP, Human)

Grabek A, Dolfi B, Klein B et al. Dual Sensing of Physiologic pH and Calcium by EFCAB9 Regulates Sperm Motility *Cell* 2019-05-30 [PMID: 31056283] (WB, Human)

Carvajal-Maldonado D, Byrum AK, Jackson J et al. Perturbing cohesin dynamics drives MRE11 nuclease-dependent replication fork slowing *Nucleic Acids Res.* 2018-06-18 [PMID: 29917110] (WB, Human)

Ma CT, Chyau CC, Hsu CC et al. Pepino polyphenolic extract improved oxidative, inflammatory and glycative stress in the sciatic nerves of diabetic mice. *Food Funct.* 2016-01-21 [PMID: 26791916] (WB, Mouse)

Chung JJ, Shim SH, Everley RA et al. Structurally distinct  $Ca^{2+}$  signaling domains of sperm flagella orchestrate tyrosine phosphorylation and motility. *Cell.* 2014-05-08 [PMID: 24813608] (ICC/IF, Mouse)

Chen JH, Wang CJ, Wang CP et al. Hibiscus sabdariffa leaf polyphenolic extract inhibits LDL oxidation and foam cell formation involving up-regulation of LXRA/ABCA1 pathway. *Food Chem.* 2013-11-01 [PMID: 23768373] (WB, Mouse)

Chen JH, Tsai CW, Wang CP, Lin HH. Anti-atherosclerotic potential of gossypetin via inhibiting LDL oxidation and foam cell formation. *Toxicol Appl Pharmacol* 2013-07-08 [PMID: 23845592] (WB, Mouse)

Ritchie MF, Samakai E, Soboloff J. STIM1 is required for attenuation of PMCA-mediated  $Ca^{2+}$  clearance during T-cell activation. *The EMBO Journal.* 2012-01-13 [PMID: 22246182]





### **Novus Biologicals USA**

10730 E. Briarwood Avenue  
Centennial, CO 80112  
USA  
Phone: 303.730.1950  
Toll Free: 1.888.506.6887  
Fax: 303.730.1966  
nb-customerservice@bio-techne.com

### **Bio-Techne Canada**

21 Canmotor Ave  
Toronto, ON M8Z 4E6  
Canada  
Phone: 905.827.6400  
Toll Free: 855.668.8722  
Fax: 905.827.6402  
canada.inquires@bio-techne.com

### **Bio-Techne Ltd**

19 Barton Lane  
Abingdon Science Park  
Abingdon, OX14 3NB, United Kingdom  
Phone: (44) (0) 1235 529449  
Free Phone: 0800 37 34 15  
Fax: (44) (0) 1235 533420  
info.EMEA@bio-techne.com

### **General Contact Information**

www.novusbio.com  
Technical Support: nb-technical@bio-techne.com  
Orders: nb-customerservice@bio-techne.com  
General: novus@novusbio.com

### **Products Related to NB300-569**

---

NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB7539	Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP]
NBP1-97005-0.5mg	Mouse IgG1 Isotype Control (MG1)

---

### **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.

For more information on our 100% guarantee, please visit [www.novusbio.com/guarantee](http://www.novusbio.com/guarantee)

Earn gift cards/discounts by submitting a review: [www.novusbio.com/reviews/submit/NB300-569](http://www.novusbio.com/reviews/submit/NB300-569)

Earn gift cards/discounts by submitting a publication using this product:  
[www.novusbio.com/publications](http://www.novusbio.com/publications)

