

PMCA ATPase Monoclonal Antibody (5F10)

Product Details

Size	100 µL
Species Reactivity	Amphibian, Dog, Chicken, Cat, Human, Mouse, Non-human primate, Sheep, Rabbit, Rat
Published Species	Dog, Rabbit, Rat, Pig, Non-human primate, Amphibian, Bovine, Hamster, Cat, Mouse, Human
Host/Isotype	Mouse / IgG2a
Class	Monoclonal
Type	Antibody
Clone	5F10
Conjugate	Unconjugated
Immunogen	Purified human erythrocyte calcium ATPase.
Form	Liquid
Concentration	Conc. Not Determined
Storage buffer	ascites
Contains	0.05% sodium azide
Storage conditions	-20° C, Avoid Freeze/Thaw Cycles
RRID	AB_2061566

Applications	Tested Dilution	Publications
Western Blot (WB)	1:1,000-1:5,000	58 Publications
Immunohistochemistry (IHC)	-	10 Publications
Immunohistochemistry (Paraffin) (IHC (P))	1:500	-
Immunohistochemistry (Frozen) (IHC (F))	1:500	1 Publication
Immunocytochemistry (ICC/IF)	Assay-dependent	9 Publications
Flow Cytometry (Flow)	Assay-dependent	-
Immunoprecipitation (IP)	Assay-dependent	4 Publications
Neutralization (Neu)	-	1 Publication
Miscellaneous PubMed (Misc)	-	1 Publication

Product Specific Information

MA3-914 detects calcium pump of the plasma membrane (PMCA) ATPase from amphibian, canine, chicken, feline, human, mouse, sheep, primate, rabbit, and rat tissues. This antibody detects all four known isoforms of the PMCA ATPase.

MA3-914 has been successfully used in Western blot, FACS, immunohistochemistry, immunocytochemistry, immunofluorescence and immunoprecipitation procedures. By Western blot, this antibody recognizes an ~140 kDa protein representing PMCA ATPase and bands at 95kDa and 180 kDa which probably represent products of aggregation and/or natural proteolytic products of the pump from rat liver membrane preparations. Immunohistochemical staining of PMCA ATPase with MA3-914 yields a pattern consistent with that seen in the literature and depends on the tissue being studied and the localization of the isoforms present.

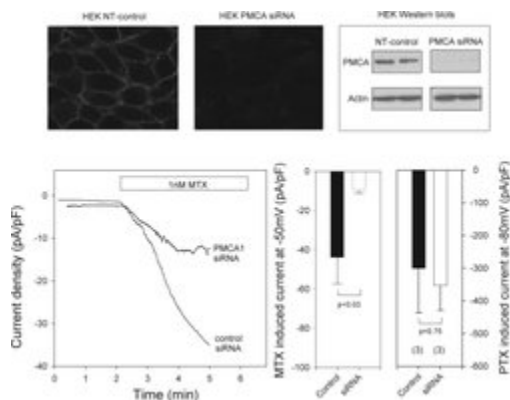
MA3-914 can be used on both frozen and formalin-fixed paraffin-embedded tissues.

The MA3-914 antigen is purified human erythrocyte calcium ATPase. This antibody recognizes an epitope between amino acids 724-783 of the human erythrocyte calcium pump.

Advanced Verification Data

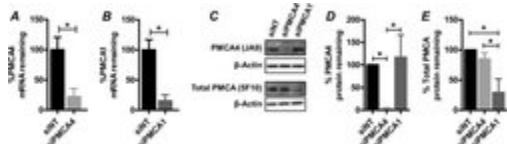
PMCA ATPase Antibody (MA3-914)

Extracellular gelsolin inhibits lymphocyte activity by binding to sortilin, CD37 and Fas (A) Antibodies specific to gelsolin were used to co-precipitate sortilin in the membrane lysates of PCa cells. (B) By the same immunoprecipitation method, CD37 was co-precipitated from THP-1 cells. (C) The protein expression patterns in PCa cells and lymphocytes, as revealed by Western blotting analysis. Although FasL (CD95L) was detected in all the cells, its receptor (Fas) was predominantly detected in CD8+ lymphocytes. Less Fas was detected in CD4+ lymphocytes. CD37 and Fas receptor were not clearly detected in all three PCa cell lines. (D) Knockdown of sortilin (sortinKD), ((E) CD37 (CD37KD) or ((F) CD151 (CD151KD) expression, as revealed by Western blotting. (G) Knockdown of CD37 (CD37KD) reduced secreted gelsolin (sGSN) binding to CD4+ THP-1 cells by 50%. Knockdown of sortilin (SortKD) reduced sGSN binding to CD4+THP-1 cells by 75%. When both sortilin and CD37 genes were silenced, the sGSN binding levels reduced to about 10% of the control levels in CD4+ THP-1 cells. (H) However, knockdown of CD151 (CD151KD) only slightly reduced sGSN binding to THP-1 cells. (I) Knockdown of $\beta 2$ microglobulin (a constituent of MHC-I) in PCa cells markedly reduced the apoptosis of CD8+ T cells after the two cell types were cultured together. Knockdown validation info.

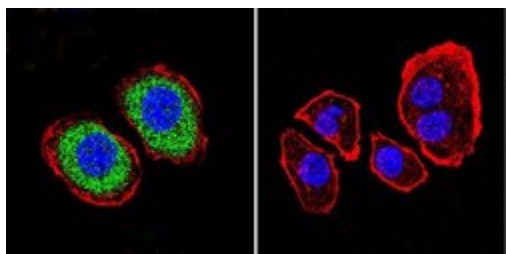


PMCA ATPase Antibody (MA3-914)

Silencing of PMCA4 and PMCA1 in MDA-MB-231 cells. Quantification of PMCA4 mRNA (A) and PMCA1 mRNA levels (B), 48 h post-siRNA transfection with siPMCA4, siPMCA1, or siNT. Real time RT-PCR data were pooled from nine individual wells, from three independent experiments performed in triplicate. *, $p < 0.05$, one-tailed Student's t test. C, immunoblots of PMCA4 and total PMCA protein expression, 72 h post-siRNA transfection. PMCA4 (D) and total PMCA (E) protein expression from densitometric analysis normalized to the β -actin loading control, from three independent experiments. *, $p < 0.05$, one-way ANOVA, Bonferroni post hoc analysis. All data shown are mean S.D. Knockdown validation info.



Product Images For PMCA ATPase Monoclonal Antibody (5F10)



PMCA ATPase Antibody (MA3-914) in ICC/IF

Immunofluorescent analysis of PMCA ATPase using Anti-PMCA ATPase Monoclonal Antibody (5F10) (Product # MA3-914) shows staining in U251 Cells. PMCA ATPase staining (green), F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with or an antibody recognizing PMCA ATPase (Product # MA3-914) at a dilution of 1:200 over night at 4°C, washed with PBS and incubated with a DyLight-488 conjugated secondary antibody (Product # 35503, Goat Anti-Mouse). Images were taken at 60X magnification.

View more figures on [thermofisher.com](https://www.thermofisher.com)

Western Blot (58)

Frontiers in cellular neuroscience

Glutamate Dereglulation in Ketamine-Induced Psychosis-A Potential Role of PSD95, NMDA Receptor and PMCA Interaction.

"Published figure using PMCA ATPase monoclonal antibody (Product # MA3-914) in Western Blot"

Authors: Lisek M, Ferenc B, Studzian M, Pulaski L, Guo F, Zylinska L, Boczek T

Species
Rat

Dilution
Not Cited

Year
2020

Cancers

Plasma Membrane Ca²⁺ ATPase Isoform 4 (PMCA4) Has an Important Role in Numerous Hallmarks of Pancreatic Cancer.

"Published figure using PMCA ATPase monoclonal antibody (Product # MA3-914) in Western Blot"

Authors: Sritangos P, Pena Alarcon E, James AD, Sultan A, Richardson DA, Bruce JIE

Species
Not Applicable

Dilution
Not Cited

Year
2020

[View more WB references on thermofisher.com](#)

Immunohistochemistry (10)

EMBO molecular medicine

Striatal infusion of cholesterol promotes dose-dependent behavioral benefits and exerts disease-modifying effects in Huntington's disease mice.

"MA3-914 was used in Immunohistochemistry to indicate that cholesterol infusion to the striatum can exert a dose-dependent, disease-modifying effect and may be therapeutically relevant in HD."

Authors: Birolini G, Valenza M, Di Paolo E, Vezzoli E, Talpo F, Maniezzi C, Caccia C, Leoni V, Taroni F, Bocchi VD, Conforti P, Sogne E, Petricca L, Cariulo C, Verani M, Caricasole A, Falqui A, Biella G, Cattaneo E

Species
Mouse
Not Applicable

Dilution
1:500
Not Cited

Year
2020

EMBO molecular medicine

Cholesterol-loaded nanoparticles ameliorate synaptic and cognitive function in Huntington's disease mice.

"MA3-914 was used in immunohistochemistry to investigate the effects of cholesterol supplementation in a mouse model of Huntington's disease"

Authors: Valenza M, Chen JY, Di Paolo E, Ruozi B, Belletti D, Ferrari Bardile C, Leoni V, Caccia C, Brillì E, Di Donato S, Boido MM, Vercelli A, Vandelli MA, Forni F, Cepeda C, Levine MS, Tosi G, Cattaneo E

Species
Mouse

Dilution
1:500

Year
2015

[View more IHC references on thermofisher.com](#)

More applications with references on thermofisher.com

IHC (F) (1)

ICC/IF (9)

IP (4)

Neu (1)

Misc (1)

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