abcam

ab238123

Anti-MPTX+MPTX2 antibody [EPR20920-19]

Recombinant | RabMAb | Advanced Validation | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR20920-19
Purification technique	Affinity purification Protein A
Concentration	0.478 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

mIHC

Tested

Species	Mouse
Dilution info	1/2000
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Recombinant full length protein - Human
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-

Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/500
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20).

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500

Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

Target data

See full target information MPTX

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	MPTX and MPTX2 sometimes referred to as MPTX proteins are specialized proteins involved in cellular processes. Mechanically these proteins serve as modulators in

	the cellular environment by interacting with various cellular components. The exact mass of these proteins can vary but they typically fall within the range of small to medium-sized proteins common in cellular signaling. MPTX and MPTX2 are expressed prominently in neural tissues indicating a role in nervous system function. They demonstrate versatility in interacting with other proteins and cellular structures.
Biological function summary	MPTX and MPTX2 operating within neural systems contribute to nerve cell communication and signal transduction. As components of a larger protein complex they facilitate synaptic transmission by modulating ion channel activity which is essential for nerve impulse propagation. These interactions significantly influence how neurons respond to external stimuli and adapt over time contributing to the plasticity of neural networks.
Pathways	MPTX and MPTX2 are integrated into important signaling pathways such as the MAPK and PI3K pathways. These pathways are important for cell survival growth and differentiation. Within these pathways MPTX and MPTX2 associate closely with kinases and phosphatases which regulate their activity and function. They interact with proteins like Akt which plays a role in signaling cascades ensuring the precise control of cellular responses.
Associated diseases and disorders	MPTX and MPTX2 have associations with neurological disorders like epilepsy and neurodegenerative conditions such as Alzheimer's disease. Variants or dysregulation of these proteins may lead to altered neuronal function and increased susceptibility to these conditions. Their role in disease pathways often involves interactions with proteins such as tau which is known for its involvement in Alzheimer's. Misregulation of these interactions can disrupt normal cellular homeostasis contributing to disease onset and progression.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

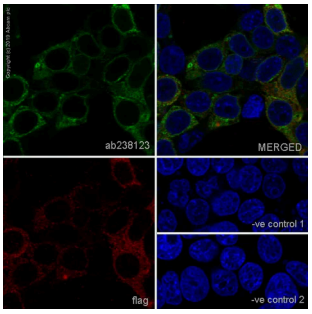
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

8 product images



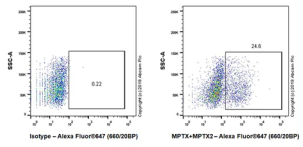
Immunocytochemistry/ Immunofluorescence - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123)

MPTX+MPTX2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MPTX+MPTX2 antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HEK-293T (human embryonic kidney epithelial cell) transfected with a flag-tagged MPTX expression construct cells labeling MPTX1 with ab238123 at 1/50 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing positive staining in HEK-293T cells transfected with a flag-tagged MPTX expression construct.
Mouse monoclonal anti-DDDDK antibody followed by ab150120 AlexaFluor®594 Goat anti-Mouse secondary was used to counterstain at 1/500 dilution (Red). The nuclear counterstain was DAPI (Blue).

-ve control 1: ab238123 at a 1/50 dilution followed by ab150120 at a 1/1000 dilution.

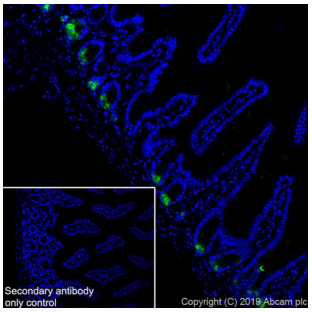
-ve control 2: Mouse monoclonal anti-DDDDK antibody at a 1/500 dilution followed by ab150077 at a 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123)

MPTX+MPTX2 Flow Cytometry (Intracellular) staining using rabbit Anti-MPTX+MPTX2 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HEK-293T (human embryonic kidney epithelial cell) transfected with a flag-tagged MPTX expression construct cells labeling MPTX1 with ab238123 at 1/500 (Right panel) compared with a Rabbit monoclonal IgG (ab172730) isotype control (Left panel). A Goat anti rabbit IgG (Alexa Fluor® 647, ab150079) at 1/2000 was used as the secondary antibody.

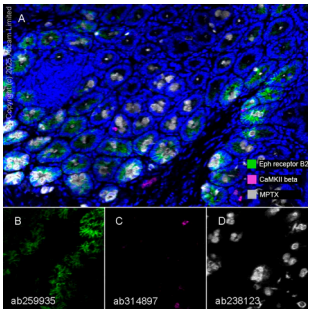


Immunohistochemistry (Frozen sections) - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123)

MPTX+MPTX2 Immunohistochemistry (Frozen sections) staining using rabbit Anti-MPTX+MPTX2 antibody

Immunohistochemical analysis of 4% PFA fixed 0.2% Triton X-100 permeabilized frozen mouse small intestine tissue labeling MPTX1 with ab238123 at 1/500 (1.10 µg/ml) dilution followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 (2 µg/ml) dilution. The nuclear counterstain was DAPI (Blue). Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20). Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody was ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 (2 µg/ml) dilution.

Positive staining on Paneth cells in mouse small intestine is observed (PMID: 29144463).



Multiplex immunohistochemistry - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123)

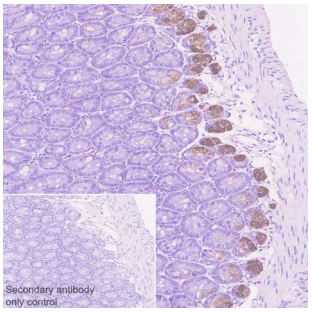
MPTX+MPTX2 Multiplex immunohistochemistry staining of Mouse small intestine using rabbit Anti-MPTX+MPTX2 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse small intestine tissue staining Eph receptor B2 with ab252935 at 1/500 dilution, ab314897 anti-CaMKII beta used at 1/5000 dilution and ab238123 anti-MPTX used at a 1/2000 dilution. Opal Polymer HRP Ms + Rb was used as a secondary antibody.

Panel A: merged staining of anti-Eph receptor B2 (green; Opal™520), anti-CaMKII beta (magenta; Opal™690) and anti-MPTX (gray; Opal™570) on mouse small intestine.
Panel B: anti-Eph receptor B2 staining membrane of stem cells in mouse small intestine.
Panel C: anti-CaMKII beta staining endocrine cells in mouse small intestine.
Panel D: anti-MPTX staining membrane of Paneth cells in mouse small intestine.
Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab259935, ab314897 and ab238123 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

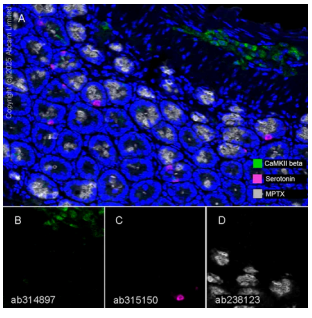


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123)

MPTX+MPTX2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MPTX+MPTX2 antibody

Immunohistochemical analysis of paraffin-embedded mouse small intestine tissue labeling MPTX1 with ab238123 at 1/1000 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Cytoplasmic staining on Paneth cells of mouse small intestine is observed. The section was incubated with ab238123 for 5 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with citrate buffer (pH 6.0, epitope retrieval solution 1) for 10mins.



Multiplex immunohistochemistry - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123)

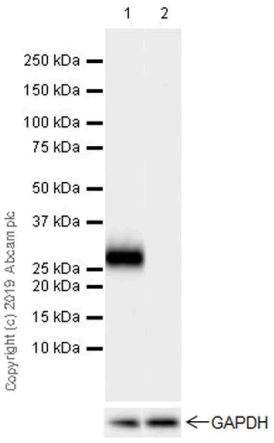
MPTX+MPTX2 Multiplex immunohistochemistry staining of Mouse small intestine using rabbit Anti-MPTX+MPTX2 antibody

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded mouse small intestine tissue staining CaMKII beta with ab314897 at a 1/5000 dilution, ab315150 anti-Serotonin

used at 1/5000 dilution and ab238123 anti-MPTX used at a 1/2000 dilution. Opal Polymer HRP Ms + Rb was used as a secondary antibody.

Panel A: merged staining of anti-CaMKII beta (green; Opal™690), anti-Serotonin (magenta; Opal™520) and anti-MPTX (grey; Opal™570) on mouse small intestine.
Panel B: anti-CaMKII beta staining myenteric nerve plexus and endocrine cells in mouse small intestine.
Panel C: anti-Serotonin staining enterochromaffin cells in mouse small intestine.
Panel D: anti-MPTX staining membrane of Paneth cells in mouse small intestine.
Nuclear DNA was labeled with DAPI (shown in blue).
The section was incubated in three rounds of staining: in the order of ab314897, ab315150 and ab238123 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Western blot - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123)

MPTX+MPTX2 Western blot staining using rabbit Anti-MPTX+MPTX2 antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
MPTX2 is reported to express in Paneth cells in the small intestine (PMID: 29144463).

The lysates were kindly provided by an anonymous collaborator.

ab238123 was shown to specifically react with MPTX in wild-type mouse intestine tissue as signal was lost in MPTX knockout tissue. Wild-type and MPTX knockout samples were subjected to SDS-PAGE. ab238123 and ab181602 (Rabbit anti-GAPDH loading control) were incubated 1 hour at room temperature at 1/1000 dilution and 1/200,000 dilution respectively. Blots were developed with Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) secondary antibody at 1/100,000 dilution for 1 hour at room temperature before imaging. The blot was developed on a BIO-RAD® ChemiDoc™ instrument using the ECL technique. Exposure time: 15 seconds.

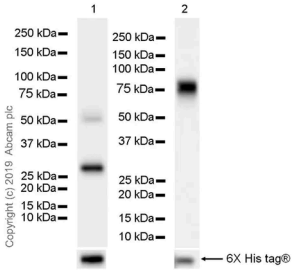
All lanes:
Western blot - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123) at 1/1000 dilution

Lane 1:
Wild type mouse large intestine tissue lysate at 10 µg

Lane 2:
MPTX knockout mouse large intestine tissue lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution



Western blot - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
MPTX2 protein carries a lif tag (MW around 40 kDa).

Exposure time: 3 seconds.

All lanes:

Western blot - Anti-MPTX+MPTX2 antibody [EPR20920-19] (ab238123) at 1/1000 dilution

Lane 1:
His-tagged mouse MPTX recombinant protein, 10ng

Lane 2:
His-lif tagged mouse MPTX2 recombinant protein, 10ng

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

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