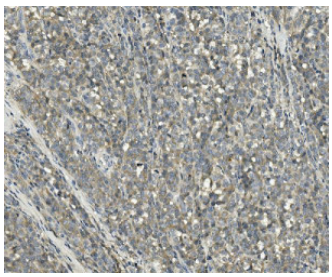
PPM1E Antibody / Protein Phosphatase 1E Antibody (FY13497)

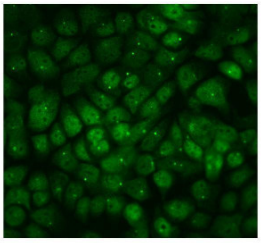
Catalog No.	Formulation	Size
FY13497	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

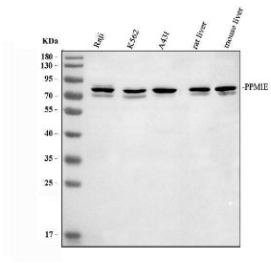
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen Affinity
Buffer	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
UniProt	Q8WY54
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This PPM1E Antibody / Protein Phosphatase 1E Antibody is available for research use only.



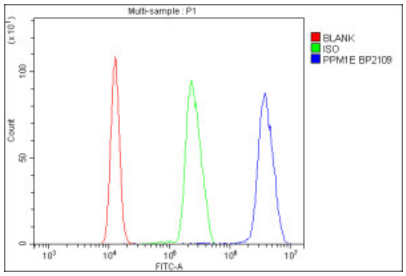
PPM1E Antibody Human Melanoma IHC. Immunohistochemical staining of FFPE human melanoma tissue using PPM1E Antibody / Protein Phosphatase 1E Antibody. Heat-induced epitope retrieval was performed in pH 8.0 EDTA buffer before incubation with PPM1E Antibody at 1 ug/ml. A biotinylated goat anti-rabbit secondary antibody with an SABC detection system and DAB chromogen was used for visualization. PPM1E exhibits predominantly cytoplasmic staining in melanoma cells, consistent with its role as a PP2C family serine/threonine phosphatase that regulates phosphorylation-dependent signaling pathways. This PPM1E Antibody, also called Protein Phosphatase 1E Antibody, is suitable for studies of protein dephosphorylation, MAPK signaling, neuronal signaling, and cancer-associated signal transduction.



PPM1E Antibody Human A431 Cell IF. Immunofluorescent staining of A431 cells using PPM1E Antibody / Protein Phosphatase 1E Antibody (green). Enzymatic antigen retrieval was performed for 15 minutes before incubation with PPM1E Antibody at 2 ug/ml, followed by a DyLight 488-conjugated goat anti-rabbit secondary antibody. Cells were counterstained with DAPI to visualize nuclei. PPM1E displays predominantly cytoplasmic staining with punctate intracellular labeling, consistent with its role as a PP2C family serine/threonine phosphatase that regulates phosphorylation-dependent signaling pathways. This PPM1E Antibody, also called Protein Phosphatase 1E Antibody, is suitable for studies of protein dephosphorylation, MAPK signaling, neuronal signaling, and cancer-associated signal transduction.



PPM1E Antibody Human and Mouse Liver WB. Western blot analysis of human Raji (lane 1), K562 (lane 2), and A431 (lane 3) whole cell lysates, rat liver (lane 4), and mouse liver (lane 5) tissue lysates using PPM1E Antibody / Protein Phosphatase 1E Antibody at 0.5 ug/ml. A specific band is detected at approximately 84 kDa in all samples, consistent with the predicted molecular weight of PPM1E. This PPM1E Antibody, also called Protein Phosphatase 1E Antibody, is suitable for studies of protein dephosphorylation, MAPK signaling, neuronal signaling, and phosphorylation-dependent signal transduction.



PPM1E Antibody Human K562 Cell FACS. Flow cytometry analysis of fixed and permeabilized human K562 cells stained with PPM1E Antibody / Protein Phosphatase 1E Antibody (blue). Cells were blocked with normal goat serum and incubated with PPM1E Antibody at 1 ug/10^6 cells, followed by a DyLight 488-conjugated goat anti-rabbit secondary antibody. Unstained cells (red) and an isotype control (green) were included to assess background staining. The pronounced rightward shift of the PPM1E-positive population demonstrates specific intracellular detection. This PPM1E Antibody, also called Protein Phosphatase 1E Antibody, is suitable for flow cytometric analysis of intracellular PPM1E expression.

Description

PPM1E Antibody / Protein Phosphatase 1E Antibody recognizes PPM1E, a magnesium/manganese-dependent serine/threonine protein phosphatase belonging to the PP2C family of phosphatases. PPM1E functions as a negative regulator of multiple intracellular signaling pathways by removing phosphate groups from specific protein substrates. Through this activity, PPM1E modulates cellular processes including neuronal differentiation, cytoskeletal organization, cell migration, apoptosis, and stress responses. The phosphatase is highly expressed in the central nervous system, where it plays important roles in regulating neuronal signaling and synaptic plasticity while contributing to normal brain development and function.

PPM1E contains a conserved PP2C catalytic domain that requires magnesium or manganese ions for enzymatic activity. Among its best-characterized substrates are calcium/calmodulin-dependent protein kinases and components of the mitogen-activated protein kinase signaling network, allowing PPM1E to regulate phosphorylation-dependent signaling events. By counterbalancing kinase activity, PPM1E helps maintain appropriate levels of intracellular signaling and influences processes such as neurite extension, cellular morphology, and responses to extracellular stimuli. The protein has also been implicated in regulating cytoskeletal dynamics through pathways involving Rho family GTPases and other signaling molecules.

Although originally characterized for its role in neuronal biology, PPM1E has gained increasing attention in cancer research. Altered expression of PPM1E has been reported in several malignancies, including glioma and breast cancer, where dysregulated phosphatase activity may influence proliferation, migration, invasion, and therapeutic response. In addition, PPM1E has been linked to metabolic regulation, inflammatory signaling, and cellular adaptation to environmental stress. Because reversible protein phosphorylation is fundamental to nearly every signaling pathway, PPM1E serves as

an important regulator of signal transduction in both normal physiology and disease.

An PPM1E Antibody is a valuable tool for investigating protein dephosphorylation, neuronal signaling, and phosphorylation-dependent regulatory mechanisms in cultured cells and tissue specimens. Researchers frequently use Protein Phosphatase 1E Antibody reagents to study PP2C phosphatase biology, MAPK signaling, cytoskeletal regulation, brain function, and cancer-associated signal transduction.

Explore our Cancer Marker Antibodies page for additional proteins involved in signal transduction, protein phosphorylation, and cancer progression.

Application Notes

Optimal dilution of the PPM1E Antibody / Protein Phosphatase 1E Antibody should be determined by the researcher.

Immunogen

E.coli-derived human Protein Phosphatase 1E recombinant protein (amino acids E141-E755) was used as the immunogen for the PPM1E Antibody.

Storage

After reconstitution, the PPM1E Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

PPM1E Antibody, Protein Phosphatase 1E Antibody, Protein Phosphatase Magnesium-Dependent 1E Antibody, CaMKP-N Antibody