

## PMPCA (G-2): sc-390470



The Power to Question

## BACKGROUND

PMPCA (peptidase (mitochondrial processing)  $\alpha$ ), also known as  $\alpha$ -MPP, P-55, INPP5E or MPPA, is a 525 amino acid protein that belongs to the peptidase M16 family and exists as a heterodimer of  $\alpha$  and  $\beta$  subunits. Localizing to mitochondrial matrix, PMPCA cleaves transit peptides from mitochondrial protein precursors. PMPCA is encoded by a gene that maps to human chromosome 9, which houses over 900 genes and comprises nearly 4% of the human genome. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects, and Familial dysautonomia, are both associated with chromosome 9. Notably, chromosome 9 encompasses the largest interferon family gene cluster.

## REFERENCES

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2. Luciano, P., et al. 1997. Functional cooperation of the mitochondrial processing peptidase subunits. *J. Mol. Biol.* 272: 213-225.
3. Zhuang, H., et al. 2006. Lupus-like disease and high interferon levels corresponding to trisomy of the type I interferon cluster on chromosome 9p. *Arthritis Rheum.* 54: 1573-1579.
4. Burmeister, T., et al. 2007. Atypical Bcr-Abl mRNA transcripts in adult acute lymphoblastic leukemia. *Haematologica* 92: 1699-1702.
5. Cottin, V., et al. 2007. Pulmonary vascular manifestations of hereditary hemorrhagic telangiectasia (Rendu-Osler disease). *Respiration* 74: 361-378.
6. Zeitz, M.J., et al. 2009. Organization of the amplified type I interferon gene cluster and associated chromosome regions in the interphase nucleus of human osteosarcoma cells. *Chromosome Res.* 17: 305-319.
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## CHROMOSOMAL LOCATION

Genetic locus: PMPCA (human) mapping to 9q34.3; Pmpca (mouse) mapping to 2 A3.

## SOURCE

PMPCA (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 215-229 within an internal region of PMPCA of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390470 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

PMPCA (G-2) is recommended for detection of PMPCA of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PMPCA (G-2) is also recommended for detection of PMPCA in additional species, including canine.

Suitable for use as control antibody for PMPCA siRNA (h): sc-92579, PMPCA siRNA (m): sc-152350, PMPCA shRNA Plasmid (h): sc-92579-SH, PMPCA shRNA Plasmid (m): sc-152350-SH, PMPCA shRNA (h) Lentiviral Particles: sc-92579-V and PMPCA shRNA (m) Lentiviral Particles: sc-152350-V.

Molecular Weight of PMPCA: 58 kDa.

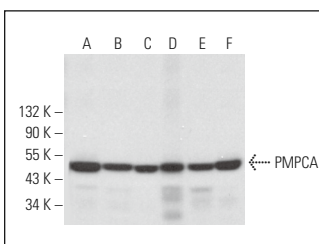
Positive Controls: A-673 cell lysate: sc-2414, A-10 cell lysate: sc-3806 or U-87 MG cell lysate: sc-2411.

## RECOMMENDED SUPPORT REAGENTS

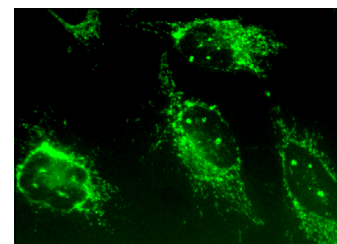
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.
- 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



PMPCA (G-2): sc-390470. Western blot analysis of PMPCA expression in A-673 (A), A-10 (B), U-87 MG (C), OVCAR-3 (D), C2C12 (E) and Neuro-2A (F) whole cell lysates.



PMPCA (G-2): sc-390470. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.