

# PTPMT1 (C-17): sc-54531

## BACKGROUND

Protein tyrosine phosphatases, or PTPs, are type I transmembrane proteins, membrane associated proteins or proteins localized in nuclei. Examples of transmembrane PTPs are LAR, PTP $\alpha$ , PTP $\beta$ , PTP $\gamma$ , PTP $\delta$ , PTP $\epsilon$ , PTP $\zeta$ , PTP $\kappa$  and PTP $\mu$ . Transmembrane PTPs play diverse roles in a variety of cellular processes during development and in adult tissues. PTPMT1 (protein tyrosine phosphatase mitochondrial 1), also known as MOSP or PLIP (phosphoinositide lipid phosphatase) and previously known as DUSP23, is a widely expressed PTP membrane protein with high expression levels in pancreatic  $\beta$  cells. PTPMT1 exclusively localizes to the matrix face of the inner membrane of the mitochondrion. It is responsible for dephosphorylating mitochondrial proteins and therefore plays a significant role in the production of ATP and secretion of Insulin. For its substrate, PTPMT1 displays a specific preference for the lipid signaling molecule, phosphatidylinositol 5-phosphate (PI(5)P).

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: PTPMT1 (human) mapping to 11p11.2.

## SOURCE

PTPMT1 (C-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PTPMT1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54531 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PTPMT1 (C-17) is recommended for detection of PTPMT1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PTPMT1 (C-17) is also recommended for detection of PTPMT1 in additional species, including porcine.

Suitable for use as control antibody for PTPMT1 siRNA (h): sc-62906, PTPMT1 shRNA Plasmid (h): sc-62906-SH and PTPMT1 shRNA (h) Lentiviral Particles: sc-62906-V.

Molecular Weight of PTPMT1: 23 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.