

PCMT1 (C-15): sc-168915

BACKGROUND

PCMT1 (protein-L-isoaspartate (D-aspartate) O-methyltransferase), also known as PIMT, is a member of the L-isoaspartyl/D-aspartyl protein methyltransferase family and is highly expressed in brain. Functioning as a monomer, PCMT1 localizes to the cytoplasm and participates in the degradation and/or repair of damaged proteins. More specifically, PCMT1 recognizes isomerized Asp or Asn residues in peptides and proteins and catalyzes the conversion of abnormal L-isoaspartyl and D-aspartyl residues to methyl esters that may then spontaneously hydrolyze to re-form normal aspartyl residues. In congruence with this reaction, PCMT1 converts the methyl donor S-adenosylmethionine (AdoMet) to S-adenosylhomocysteine (AdoHcy). In mice lacking PCMT1, damaged proteins accumulate in a variety of tissues and the ratio between AdoMet and AdoHcy is increased in brain tissue. The phenotypic result is progressive epilepsy and death at an early age.

REFERENCES

1. MacLaren, D.C., et al. 1992. The L-isoaspartyl/D-aspartyl protein methyltransferase gene (PCMT1) maps to human chromosome 6q22.3-6q24 and the syntenic region of mouse chromosome 10. *Genomics* 14: 852-856.
2. MacLaren, D.C., et al. 1992. Alternative splicing of the human isoaspartyl protein carboxyl methyltransferase RNA leads to the generation of a C-terminal -RDEL sequence in isozyme II. *Biochem. Biophys. Res. Commun.* 185: 277-283.
3. DeVry, C.G. and Clarke, S. 1999. Assignment of the protein L-isoaspartate (D-aspartate) O-methyltransferase gene (PCMT1) to human chromosome bands 6q24→q25 with radiation hybrid mapping. *Cytogenet. Cell Genet.* 84: 130-131.
4. DeVry, C.G. and Clarke, S. 1999. Polymorphic forms of the protein L-isoaspartate (D-aspartate) O-methyltransferase involved in the repair of age-damaged proteins. *J. Hum. Genet.* 44: 275-288.
5. Farrar, C. and Clarke, S. 2002. Altered levels of S-adenosylmethionine and S-adenosylhomocysteine in the brains of L-isoaspartyl (D-Aspartyl) O-methyltransferase-deficient mice. *J. Biol. Chem.* 277: 27856-27863.

CHROMOSOMAL LOCATION

Genetic locus: PCMT1 (human) mapping to 6q25.1; Pcmt1 (mouse) mapping to 10 A1.

SOURCE

PCMT1 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PCMT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-168915 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PCMT1 (C-15) is recommended for detection of PCMT1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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); non cross-reactive with PCMTD1 or PCMTD2.

PCMT1 (C-15) is also recommended for detection of PCMT1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PCMT1 siRNA (h): sc-95544, PCMT1 siRNA (m): sc-152112, PCMT1 shRNA Plasmid (h): sc-95544-SH, PCMT1 shRNA Plasmid (m): sc-152112-SH, PCMT1 shRNA (h) Lentiviral Particles: sc-95544-V and PCMT1 shRNA (m) Lentiviral Particles: sc-152112-V.

PCMT1 (C-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

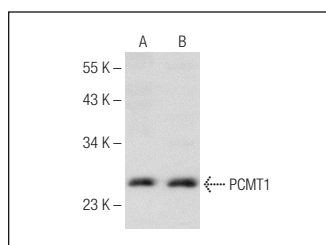
Molecular Weight of PCMT1: 25 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, PC-12 cell lysate: sc-2250 or Hep G2 cell lysate: sc-2227.

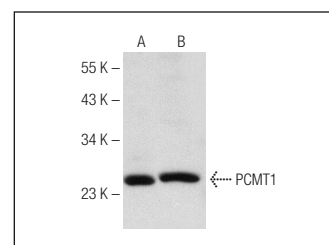
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



PCMT1 (C-15): sc-168915. Western blot analysis of PCMT1 expression in Jurkat (A) and Hep G2 (B) whole cell lysates



PCMT1 (C-15): sc-168915. Western blot analysis of PCMT1 expression in PC-12 (A) and HEK293 (B) whole cell lysates.

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.