

# PCMTD2 (T-16): sc-86194

## BACKGROUND

PCMTD2 (protein-L-isoaspartate O-methyltransferase domain-containing protein 1) is a 361 amino acid cytoplasmic protein that is a member of the L-isoaspartyl/D-aspartyl protein methyltransferase family. Members of this family participate in the degradation and/or repair of damaged proteins by specifically recognizing isomerized Asp or Asn residues in peptides and proteins. PCMTD2 is related to PCMT1, which 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 mice lacking PCMT1, damaged proteins accumulate in a variety of tissues and the phenotypic result is progressive epilepsy and death at an early age. There are three isoforms of PCMTD2 that are produced as a result of alternative splicing events.

## 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. Galletti, P., et al. 1995. Protein damage and methylation-mediated repair in the erythrocyte. *Biochem. J.* 306: 313-325.
3. Yamamoto, A., et al. 1998. Deficiency in protein L-isoaspartyl methyltransferase results in a fatal progressive epilepsy. *J. Neurosci.* 18: 2063-2074.
4. DeVry, C.G. and Clarke, S. 1999. Polymorphic forms of the protein L-iso-aspartate (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.
6. Clarke, S. 2003. Aging as war between chemical and biochemical processes: protein methylation and the recognition of age-damaged proteins for repair. *Ageing Res. Rev.* 2: 263-285.

## CHROMOSOMAL LOCATION

Genetic locus: PCMTD2 (human) mapping to 20q13.33; Pcmdt2 (mouse) mapping to 2 H4.

## SOURCE

PCMTD2 (T-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PCMTD2 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-86194 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PCMTD2 (T-16) is recommended for detection of PCMTD2 of human, mouse and, to a lesser extent, rat 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).

PCMTD2 (T-16) is also recommended for detection of PCMTD2 in additional species, including equine.

Suitable for use as control antibody for PCMTD2 siRNA (h): sc-76089, PCMTD2 siRNA (m): sc-152114, PCMTD2 shRNA Plasmid (h): sc-76089-SH, PCMTD2 shRNA Plasmid (m): sc-152114-SH, PCMTD2 shRNA (h) Lentiviral Particles: sc-76089-V and PCMTD2 shRNA (m) Lentiviral Particles: sc-152114-V.

Molecular Weight (predicted) of PCMTD2: 41 kDa.

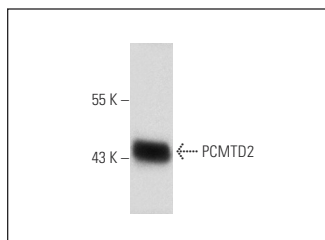
Molecular Weight (observed) of PCMTD2: 43/67 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or mouse heart extract: sc-2254.

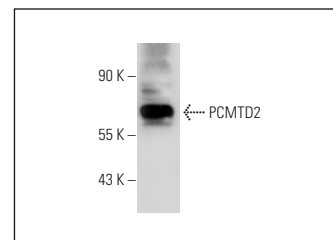
## RECOMMENDED SECONDARY REAGENTS

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



PCMTD2 (T-16): sc-86194. Western blot analysis of PCMTD2 expression in mouse heart tissue extract.



PCMTD2 (T-16): sc-86194. Western blot analysis of PCMTD2 expression in HeLa whole cell lysate.

## 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.