

DPEP1 (T-14): sc-109262

BACKGROUND

DPEP1 (dipeptidase 1), also known as MDP, RDP or MBD1, is a 411 amino acid renal protein that localizes to the apical cell membrane and belongs to the peptidase M19 family. Existing as a disulfide-linked homodimer, DPEP1 uses zinc as a cofactor to catalyze the hydrolysis of various dipeptides and, via its catalytic activity, plays a role in glutathione and leukotriene metabolism. DPEP1 is functionally inhibited by L-penicillamine and is subject to post-translational N-glycosylation. The gene encoding DPEP1 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, as is Crohn's disease, which is a gastrointestinal inflammatory condition.

REFERENCES

- Campbell, B.J., et al. 1984. β -lactamase activity of purified and partially characterized human renal dipeptidase. *J. Biol. Chem.* 259: 14586-14590.
- Adachi, H., et al. 1989. Purification and characterization of human microsomal dipeptidase. *J. Biochem.* 105: 957-961.
- Hooper, N.M., et al. 1990. Characterization of the glycosyl-phosphatidylinositol-anchored human renal dipeptidase reveals that it is more extensively glycosylated than the pig enzyme. *Biochem. J.* 265: 429-433.
- Adachi, H., et al. 1990. Primary structure of human microsomal dipeptidase deduced from molecular cloning. *J. Biol. Chem.* 265: 3992-3995.
- Adachi, H., et al. 1990. Identification of membrane anchoring site of human renal dipeptidase and construction and expression of a cDNA for its secretory form. *J. Biol. Chem.* 265: 15341-15345.
- Austruy, E., et al. 1993. Physical and genetic mapping of the dipeptidase gene DPEP1 to 16q24.3. *Genomics* 15: 684-687.
- Nitanai, Y., et al. 2002. Crystal structure of human renal dipeptidase involved in β -lactam hydrolysis. *J. Mol. Biol.* 321: 177-184.
- McIver, C.M., et al. 2004. Dipeptidase 1: a candidate tumor-specific molecular marker in colorectal carcinoma. *Cancer Lett.* 209: 67-74.

CHROMOSOMAL LOCATION

Genetic locus: DPEP1 (human) mapping to 16q24.3; Dpep1 (mouse) mapping to 8 E1.

SOURCE

DPEP1 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DPEP1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-109262 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DPEP1 (T-14) is recommended for detection of DPEP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

DPEP1 (T-14) is also recommended for detection of DPEP1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for DPEP1 siRNA (h): sc-93251, DPEP1 siRNA (m): sc-143152, DPEP1 shRNA Plasmid (h): sc-93251-SH, DPEP1 shRNA Plasmid (m): sc-143152-SH, DPEP1 shRNA (h) Lentiviral Particles: sc-93251-V and DPEP1 shRNA (m) Lentiviral Particles: sc-143152-V.

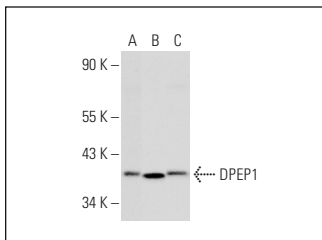
Molecular Weight of DPEP1 monomer: 42 kDa.

Positive Controls: mouse testis extract: sc-2405, F9 cell lysate: sc-2245 or NTERA-2 cl.D1 whole cell lysate: sc-364181.

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



DPEP1 (T-14): sc-109262. Western blot analysis of DPEP1 expression in mouse testis tissue extract (A) and F9 (B) and NTERA-2 cl.D1 (C) 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.