

DNPEP (S-12): sc-107524

BACKGROUND

DNPEP, also known as DAP, ASPEP or aspartyl aminopeptidase, is a 475 amino acid protein that is a member of the M18 family of the MH clan of co-catalytic metallopeptidases. It contains three zinc finger binding domains and several conserved residues including three histidines, three glutamates and five aspartates. DNPEP is ubiquitously expressed with highest expression in testis, intermediate expression in kidney and lung, and lesser but significant expression in spleen, liver and brain. DNPEP removes glutamyl or aspartyl residues from N-terminal acidic amino acid-containing peptides, implicating its importance in intracellular protein and peptide metabolism. In the brain, DNPEP converts Angiotensin I to Angiotensin II and is thought to play an important role in blood pressure control. This suggests that DNPEP may function as a potential target for antihypertensive therapy.

REFERENCES

1. Wilk, S., et al. 1998. Purification, characterization, and cloning of a cytosolic aspartyl aminopeptidase. *J. Biol. Chem.* 273: 15961-15970.
2. Ramírez-Expósito, M.J., et al. 2000. Comparative distribution of glutamyl and aspartyl aminopeptidase activities in mouse organs. *Horm. Metab. Res.* 32: 161-163.
3. Wilk, S., et al. 2002. Identification of histidine residues important in the catalysis and structure of aspartyl aminopeptidase. *Arch. Biochem. Biophys.* 407: 176-183.
4. Varona, A., et al. 2003. Effects of changes in hydromineral balance on rat brain aspartyl, arginyl, and alanyl aminopeptidase activities. *Horm. Metab. Res.* 35: 36-42.
5. Banegas, I., et al. 2006. Brain aminopeptidases and hypertension. *J. Renin Angiotensin Aldosterone Syst.* 7: 129-134.
6. Carrera, M.P., et al. 2006. Renin-angiotensin system-regulating aminopeptidase activities are modified in the pineal gland of rats with breast cancer induced by N-methyl-nitrosourea. *Cancer Invest.* 24: 149-153.
7. Yokoyama, R., et al. 2006. Identification of yeast aspartyl aminopeptidase gene by purifying and characterizing its product from yeast cells. *FEBS J.* 273: 192-198.
8. Teuscher, F., et al. 2007. The M18 aspartyl aminopeptidase of the human malaria parasite *Plasmodium falciparum*. *J. Biol. Chem.* 282: 30817-30826.
9. Varona, A., et al. 2007. Altered levels of acid, basic, and neutral peptidase activity and expression in human clear cell renal cell carcinoma. *Am. J. Physiol. Renal Physiol.* 292: 780-788.

CHROMOSOMAL LOCATION

Genetic locus: DNPEP (human) mapping to 2q35; Dnpep (mouse) mapping to 1 C3.

SOURCE

DNPEP (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of DNPEP 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-107524 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

DNPEP (S-12) is recommended for detection of DNPEP of mouse, rat and 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).

DNPEP (S-12) is also recommended for detection of DNPEP in additional species, including avian.

Suitable for use as control antibody for DNPEP siRNA (h): sc-95014, DNPEP siRNA (m): sc-143127, DNPEP shRNA Plasmid (h): sc-95014-SH, DNPEP shRNA Plasmid (m): sc-143127-SH, DNPEP shRNA (h) Lentiviral Particles: sc-95014-V and DNPEP shRNA (m) Lentiviral Particles: sc-143127-V.

Molecular Weight of DNPEP: 55 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

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.



Try **DNPEP (Q-16): sc-100492**, our highly recommended monoclonal alternative to DNPEP (S-12).