

DNPEP (Q-16): sc-100492

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 metalloproteases. 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., Wilk, E. and Magnusson, R.P. 1998. Purification, characterization, and cloning of a cytosolic aspartyl aminopeptidase. *J. Biol. Chem.* 273: 15961-15970.
2. Ramírez-Expósito, M.J., Martínez, J.M., Prieto, I., Alba, F. and Ramírez, M. 2000. Comparative distribution of glutamyl and aspartyl aminopeptidase activities in mouse organs. *Horm. Metab. Res.* 32: 161-163.
3. Wilk, S., Wilk, E. and Magnusson, R.P. 2002. Identification of histidine residues important in the catalysis and structure of aspartyl aminopeptidase. *Arch. Biochem. Biophys.* 407: 176-183.
4. Varona, A., Silveira, P.F., Irazusta, A., Valdivia, A. and Gil, J. 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., Prieto, I., Vives, F., Alba, F., de Gasparo, M., Segarra, A.B., Hermoso, F., Durán, R. and Ramírez, M. 2006. Brain aminopeptidases and hypertension. *J. Renin Angiotensin Aldosterone Syst.* 7: 129-134.
6. Carrera, M.P., Ramírez-Expósito, M.J., Valenzuela, M.T., Dueñas, B., García, M.J., Mayas, M.D. and Martínez-Martos, J.M. 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., Kawasaki, H. and Hirano, H. 2006. Identification of yeast aspartyl aminopeptidase gene by purifying and characterizing its product from yeast cells. *FEBS J.* 273: 192-198.

CHROMOSOMAL LOCATION

Genetic locus: DNPEP (human) mapping to 2q35.

SOURCE

DNPEP (Q-16) is a mouse monoclonal antibody raised against recombinant DNPEP of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

DNPEP (Q-16) is recommended for detection of DNPEP of 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).

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.

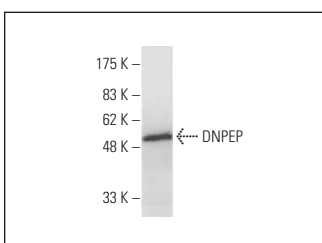
Molecular Weight of DNPEP: 55 kDa.

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

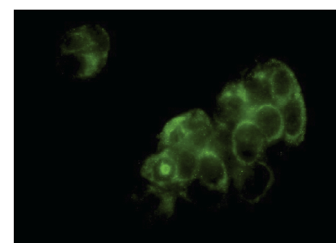
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



DNPEP (Q-16): sc-100492. Western blot analysis of DNPEP expression in MCF7 whole cell lysate.



DNPEP (Q-16): sc-100492. Immunofluorescence staining of paraformaldehyde-fixed MCF7 cells showing membrane and cytoplasmic localization.

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 for detailed protocols and support products.