10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DPEP1 Antibody(N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19662a

Product Information

Application	WB, E
Primary Accession	P16444
Other Accession	NP_001121613.1
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB41566
Calculated MW	45674
Antigen Region	1-30

Additional Information

Gene ID	1800
Other Names	Dipeptidase 1, Dehydropeptidase-I, Microsomal dipeptidase, Renal dipeptidase, hRDP, DPEP1, MDP, RDP
Target/Specificity	This DPEP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human DPEP1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DPEP1 Antibody(N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DPEP1
Synonyms	MDP {ECO:0000303|PubMed:2303490}, RDP
Function	Hydrolyzes a wide range of dipeptides including the conversion of

	leukotriene D4 to leukotriene E4 (PubMed:2303490, PubMed:31442408, PubMed:32325220, PubMed:6334084). Hydrolyzes cystinyl- bis-glycine (cys-bis-gly) formed during glutathione degradation (PubMed:32325220). Also possesses beta lactamase activity and can hydrolyze the beta-lactam antibiotic imipenem (PubMed:32325220, PubMed:6334084).
Cellular Location	Apical cell membrane; Lipid-anchor, GPI-anchor. Cell projection, microvillus membrane; Lipid-anchor, GPI-anchor. Note=Brush border membrane {ECO:0000250|UniProtKB:P31429}
Tissue Location	Expressed in lung and kidneys.

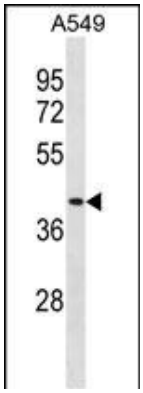
Background

DPEP1 (EC 3.4.13.11) is a kidney membrane enzyme that hydrolyzes a variety of dipeptides and is implicated in renal metabolism of glutathione and its conjugates, e.g., leukotriene D4 (Kozak and Tate, 1982 [PubMed 6122685]). DPEP1 is responsible for hydrolysis of the beta-lactam ring of antibiotics, such as penem and carbapenem (Campbell et al., 1984 [PubMed 6334084]). Earlier, beta-lactamase enzymes were thought to occur only in bacteria, where their probable function was in protecting the organisms against the action of beta-lactam antibiotics. These antibiotics exhibit selective toxicity against bacteria but virtual inertness against many eukaryotic cells (Adachi et al., 1990 [PubMed 2303490]).

References

Nan, H., et al. J. Invest. Dermatol. 129(9):2250-2257(2009)
Pare, G., et al. Circ Cardiovasc Genet 2(2):142-150(2009)
Nitanai, Y., et al. J. Mol. Biol. 321(2):177-184(2002)
Kera, Y., et al. Comp. Biochem. Physiol. B, Biochem. Mol. Biol. 123(1):53-58(1999)
Satoh, S., et al. Biotechnol. Prog. 10(2):134-140(1994)

Images



DPEP1 Antibody (N-term) (Cat. #AP19662a) western blot analysis in A549 cell line lysates (35ug/lane).This demonstrates the DPEP1 antibody detected the DPEP1 protein (arrow).