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ATP6V1B2 Rabbit pAb

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Catalog # AP54884

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	P21281
Predicted	Human, Mouse, Rat, Chicken, Dog, Pig, Horse, Rabbit, Sheep, Cynomolgus, Orangutan
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56501
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human ATP6V1B2
Epitope Specificity	51-150/511
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Endomembrane system. Melanosome. Endomembrane. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.
SIMILARITY	Belongs to the ATPase alpha/beta chains family.
SUBUNIT	V-ATPase is a heteromultimeric enzyme composed of a peripheral catalytic V1 complex (main components: subunits A, B, C, D, E, and F) attached to an integral membrane V0 proton pore complex (main component: the proteolipid protein).
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Vacuolar-type H+-ATPase (V-ATPase) is a multisubunit enzyme responsible for acidification of eukaryotic intracellular organelles. V-ATPases pump protons against an electrochemical gradient, while F-ATPases reverse the process, thereby synthesizing ATP. A peripheral V1 domain, which is responsible for ATP hydrolysis, and a integral V0 domain, which is responsible for proton translocation, compose V-ATPase. Nine subunits (A–H) make up the V1 domain and five subunits (a, d, c, c' and c") make up the V0 domain. Like F-ATPase, V-ATPase most likely operates through a rotary mechanism. The V-ATPase V1 B subunit exists as two isoforms. In the inner ear, the V-ATPase B1 isoform functions in proton secretion and is required to maintain proper endolymph pH and normal auditory function. The gene encoding the human V-ATPase B1 isoform maps to chromosome 2cen-q13. Mutations in this gene cause distal renal tubular acidosis associated with sensorineural deafness. The V-ATPase B2 isoform is expressed in kidney and is the only B isoform expressed in osteoclasts. The gene encoding the human V-ATPase B2 isoform maps to chromosome 8p22-p21.

Additional Information

Gene ID	526
Other Names	V-type proton ATPase subunit B, brain isoform, V-ATPase subunit B 2, Endomembrane proton pump 58 kDa subunit, HO57, Vacuolar proton pump subunit B 2, ATP6V1B2, ATP6B2, VPP3
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	ATP6V1B2
Synonyms	ATP6B2, VPP3
Function	Non-catalytic subunit of the V1 complex of vacuolar(H+)- ATPase (V-ATPase), a multisubunit enzyme composed of a peripheral complex (V1) that hydrolyzes ATP and a membrane integral complex (V0) that translocates protons (PubMed:33065002). V-ATPase is responsible for acidifying and maintaining the pH of intracellular compartments and in some cell types, is targeted to the plasma membrane, where it is responsible for acidifying the extracellular environment (PubMed:32001091). In renal intercalated cells, can partially compensate the lack of ATP6V1B1 and mediate secretion of protons (H+) into the urine under base-line conditions but not in conditions of acid load (By similarity).
Cellular Location	Apical cell membrane. Melanosome. Cytoplasm {ECO:0000250|UniProtKB:P62814}. Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane {ECO:0000250|UniProtKB:P62815}; Peripheral membrane protein. Cytoplasmic vesicle, clathrin-coated vesicle membrane {ECO:0000250|UniProtKB:P62815}; Peripheral membrane protein. Note=Identified by mass spectrometry in melanosome fractions from stage I to stage IV
Tissue Location	Kidney; localizes to early distal nephron, encompassing thick ascending limbs and distal convoluted tubules (at protein level).

Background

Vacuolar-type H+-ATPase (V-ATPase) is a multisubunit enzyme responsible for acidification of eukaryotic intracellular organelles. V-ATPases pump protons against an electrochemical gradient, while F-ATPases reverse the process, thereby synthesizing ATP. A peripheral V1 domain, which is responsible for ATP hydrolysis, and a integral V0 domain, which is responsible for proton translocation, compose V-ATPase. Nine subunits (A–H) make up the V1 domain and five subunits (a, d, c, c' and c") make up the V0 domain. Like F-ATPase, V-ATPase most likely operates through a rotary mechanism. The V-ATPase V1 B subunit exists as two isoforms. In the inner ear, the V-ATPase B1 isoform functions in proton secretion and is required to maintain proper endolymph pH and normal auditory function. The gene encoding the human V-ATPase B1 isoform maps to chromosome 2cen-q13. Mutations in this gene cause distal renal tubular acidosis associated with sensorineural deafness. The V-ATPase B2 isoform is expressed in kidney and is the only B isoform expressed in osteoclasts. The gene encoding the human V-ATPase B2 isoform maps to chromosome 8p22-p21.