Revision 3

Store at -20C

#14488

ATP6V1B2 (D3O7Q) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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Applications:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	Endogenous	55	Rabbit IgG	#P21281	526

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

ATP6V1B2 (D3O7Q) Rabbit mAb recognizes endogenous levels of total ATP6V1B2 protein. This antibody does not cross-react with ATP6V1B1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human ATP6V1B2 protein.

Background

Eukaryotic cells contain ATP-driven proton pumps known as vacuolar H+-ATPases (V-ATPases) that acidify intracellular compartments and translocate protons across the plasma membrane (1,2). Intracellular v-ATPases play an important role in endocytosis and intracellular membrane trafficking, while plasma membrane v-ATPases are important in processes such as urinary acidification and bone resorption (1,2). Vacuolar ATPase enzymes are large, heteromultimeric protein complexes with component proteins found in either the V1 peripheral domain or the V0 integral domain (2). The cytoplasmic V1 domain contains a hexamer of A and B catalytic subunits, as well as a number of other protein subunits required for ATPase assembly and ATP hydrolysis. The integral V0 v-ATPase domain exhibits protein translocase activity and is responsible for transport of protons across the membrane (2). Research studies show that the v-ATPases ATP6V0c, ATP6V0d1, ATP6V1A, ATP6V1B2, and ATP6V1D interact with the Ragulator protein complex and are essential for amino acid induced activation of mTORC1 on the surface of lysosomes (3).
Two isoforms of the B subunit are found in humans, ATP6V1B1 and ATP6V1B2. The ATP6V1B1 protein is expressed primarily in the kidney, with mutations in the corresponding gene responsible for a form of renal tubular acidosis associated with progressive hearing loss (4,5). ATP6V1B2 protein exhibits a broader range of expression, localized to kidney, brain, pancreas, and other tissues (4).

Background References

1. Marshansky, V. and Futai, M. (2008) *Curr Opin Cell Biol* 20, 415-26.
2. Jefferies, K.C. et al. (2008) *Arch Biochem Biophys* 476, 33-42.
3. Zoncu, R. et al. (2011) *Science* 334, 678-83.
4. van Hille, B. et al. (1994) *Biochem J* 303 (Pt 1), 191-8.
5. Karet, F.E. et al. (1999) *Nat Genet* 21, 84-90.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

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