

Recombinant Mouse AT2B1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51123

Size: 10ug, 100ug

Protein Name: Plasma membrane calcium-transporting ATPase 1 (EC 7.2.2.10) (Plasma membrane calcium ATPase isoform 1) (PMCA1) (Plasma membrane calcium pump isoform 1)

Synonym: Atp2b1

UniProt ID: G5E829

UniProt Link: www.uniprot.org/uniprotkb/G5E829/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1220 AA

Molecular Weight: 135 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MGDMANNSVAYSGVKNSLKEANHDGDFGITLTELRALMELRSTDALRKIQESYGDVYGICTKLKTSP
NEGLSGNPADLERREAVFGKNFIPPKPKPTFLQLVWEALQDVTLLILEIAAIVSLGLSFYQPPEGDNAL
CGEVSVEEGEEGETGWIEGAAILLSVVCVVLVTAFNDWSKEKQFRGLQSRIEQEQKFTVIRGGQVI
QIPVADITVGDIQVKYGDLLPADGILIQGNLDKIDESSLTGESDHVKKSLDKDPLLLSGTHVMEGSGR
MVVTAVGVNSQTGIIFTLLGAGGEEEEKKDEKKKEKKNKKQDGA IENRNKAKAQDGAAMEMQPLKS
EEGGDGDEKDKKKANLPKKEKSVLQGKLTKLAVQIGKAGLLMSAITVIILVLYFVIDTFWVQKRPWLA
ECTPIYIQYFVKFFIIGVTVLVAVPEGLPLAVTISLAYSVKKMMKDNNLVRHLDACETMGNATAICSDK
TGTLTMNRMTVVQAYINEKHKKVPEPEAIPPNIISYLVGTGISVNCAYTSKILPPEKEGGLPRHVGNT
ECALLGFLDLKRDYQDVRNEIPEEALYKVYTFNSVRKSMSTVLKNSDGSFRIFSKGASEILKKCFKIL
SANGEAKVFRPRDRDDIVKTVIEPMASEGLRTICLAFRDFPAGEPEPEWDNENDVVTGLTCIAVVGIE
DPVRPEVPEAIIKKCQRAGITVRMVTGDNINTARAIATKCGILHPGEDFLCLEGKDFNRRIRNEKGEIEQ
ERIDKIWPKLRLVLRSSPTDKHTLVKGIIDSTVSEQRQVAVTGDGTNDGPALKKADVGFAMGIAGTD
VAKEASDIILTDDNFTSIVKAVMWGRNVYDSISKFLQFQLTVNVVAVIVAFTGACITQDSPLKAVQMLW
VNLIMDTLASLALATEPPTESLLLLRPYGRNKPLISRTMMKNILGHAFYQLVVVFTLLFAGEKFFDIDS
GRNAPLHAPPSEHYTIVFNTFVLMQLFNEINARKIHGERNVFEGIFNNAIFCTIVLGTFFVQIIIVQFGGK
PFSCSELSIEQWLWSIFLGMGTLLWGQLISTIPTSRKFLKEAGHGTQKEEIPPEELAEDVEEIDHAER



ELRRGQILWFRGLNRIQTQIRVVNAFRSSLYEGLEKPESRSSIHNFMTHPEFRIEDSEPHIPLIDDTDA
EDDAPTKRNSPPSPNKNNAVDSGIHLTIEMNKSATSSSPGSPLHSLETSL

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Plasma membrane calcium-transporting ATPase 1 (EC 7.2.2.10) (Plasma membrane calcium ATPase isoform 1) (PMCA1) (Plasma membrane calcium pump isoform 1) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Catalyzes the hydrolysis of ATP coupled with the transport of calcium from the cytoplasm to the extracellular space thereby maintaining intracellular calcium homeostasis (PubMed:16956963, PubMed:22311909, PubMed:23266958, PubMed:24805951, PubMed:26392310, PubMed:28827723, PubMed:29950683). Plays a role in blood pressure regulation through regulation of intracellular calcium concentration and nitric oxide production leading to regulation of vascular smooth muscle cells vasoconstriction (PubMed:22311909, PubMed:24805951, PubMed:29950683). Positively regulates bone mineralization through absorption of calcium from the intestine (PubMed:23266958, PubMed:26392310). Plays dual roles in osteoclast differentiation and survival by regulating RANKL-induced calcium oscillations in preosteoclasts and mediating calcium extrusion in mature osteoclasts (PubMed:23266958). Regulates insulin sensitivity through calcium/calmodulin signaling pathway by regulating AKT1 activation and NOS3 activation in endothelial cells (By similarity). May play a role in synaptic transmission by modulating calcium and proton dynamics at the synaptic vesicles.

Subcellular Localization: Cell membrane ; Multi-pass membrane protein . Basolateral cell membrane . Synapse . Presynaptic cell membrane ; Multi-pass membrane protein . Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane ; Multi-pass membrane protein . Note=Colocalizes with SV2A in photoreceptor synaptic terminals (PubMed:12209837). Colocalizes with NPTN to the immunological synapse (PubMed:28827723). Colocalizes with EPB41 to the basolateral membrane in enterocyte (PubMed:23460639). Preferentially sorted to recycling synaptic vesicles.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial

manufacturing.