

ATP4A Protein, Human, Recombinant (His & Myc)

General Information

Synonyms:	Gastric H(+)/K(+) ATPase subunit alpha;ATP4A;Potassium-transporting ATPase alpha chain 1; Proton pump
Protein Construction:	350-783 aa
Species:	Human
Expression Host:	E. coli
Accession:	P20648
Molecular Weight:	54.6 kDa (predicted)
AA Sequence:	<p>TVTVCLSLTAKRLASKNCVKNLEAVETLGSTSVICSDKGTLTQNRMTVSHLWFDNHIHTADTTEDQSGQTF DQSSETWRALCRVLTLCNRAAFKSGQDAVVPVKRIVIGDASETALLKFSELT LGNAMGYRDRFPKVCEIPFNST NKFQLSIHTLEDPRDPRHLLVMKGAPEVLERCSSILIKGQELPLDEQWREAFQTAYLSLGG LGERVLGFCQLY LNEKDYPGAFDVEAMNFPSSGLCFAGLVSMIDPPRATVPDAVLKCRTAGIRVIMVTGDHPITAKAIAASVGI ISEGSETVEDIAARLRVPVDQVNRKDARACVINGMQLKMDPSELVEALRTHPEMVFARTSPQQKLIVESCQ RLGAIVAVTGDGVNDSPALKKADIGVAMGIAGSDAAKNAADMILLDDNFASIVTGVEQGRLIFDNL</p>

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100 μg/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

The catalytic subunit of the gastric H(+)/K(+) ATPase pump which transports H(+) ions in exchange for K(+) ions across the apical membrane of parietal cells. Uses ATP as an energy source to pump H(+) ions to the gastric lumen while transporting K(+) ion from the lumen into the cell. Remarkably generates a million-fold proton gradient across the gastric parietal cell membrane, acidifying the gastric juice down to pH 1. Within a transport cycle, the transfer of a H(+) ion across the membrane is coupled to ATP hydrolysis and is associated with a transient phosphorylation that shifts the pump conformation from inward-facing (E1) to outward-facing state (E2). The release of the H(+) ion in the stomach lumen is followed by binding of K(+) ion converting the pump conformation back to the E1 state.

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