Datasheet for ABIN3085571

PCK1 Protein (AA 1-622) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	PCK1
Protein Characteristics:	AA 1-622
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PCK1 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

Product Details

Brand:	AliCE®
Sequence:	MPPQLQNGLN LSAKVVQGSL DSLPQAVREF LENNAELCQP DHIHICDGSE EENGRLLGQM EEEGILRRLK KYDNCWLALT DPRDVARIES KTVIVTQEQR DTVPIPKTGL SQLGRWMSEE DFEKAFNARF PGCMKGRTMY VIPFSMGPLG SPLSKIGIEL TDSPYVVASM RIMTRMGTPV LEAVGDGEFV KCLHSVGCPL PLQKPLVNNW PCNPELTLIA HLPDRREIIS FGSGYGGNSL LGKKCFALRM ASRLAKEEGW LAEHMLILGI TNPEGEKKYL AAAFPSACGK TNLAMMNPSL PGWKVECVGD DIAWMKFDAQ GHLRAINPEN GFFGVAPGTS VKTNPNAIKT IQKNTIFTNV AETSDGGVYW EGIDEPLASG VTITSWKNKE WSSEDGEPCA HPNSRFCTPA SQCPIIDAAW ESPEGVPIEG IIFGGRRPAG VPLVYEALSW QHGVFVGAAM RSEATAAAEH KGKIIMHDPF AMRPFFGYNF GKYLAHWLSM AQHPAAKLPK IFHVNWFRKD KEGKFLWPGF GENSRVLEWM FNRIDGKAST KLTPIGYIPK EDALNLKGLG HINMMELFSI SKEFWEKEVE DIEKYLEDQV NADLPCEIER EILALKQRIS QM

Product Details

	Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.
Characteristics:	Key Benefits: • Made in Germany - from design to production - by highly experienced protein experts. • Protein expressed with ALiCE® and purified in one-step affinity chromatography • These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed). • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a **made-to-order protein** and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. The big advantage of ordering our **made-to-order proteins** in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified. Expression System: • ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. • During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein! Concentration: • The concentration of our recombinant proteins is measured using the absorbance at 280nm. • The protein's absorbance will be measured against its specific reference buffer. • We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.
Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (AliCE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

Product Details

Grade:	custom-made

Target Details

Target:	PCK1
Alternative Name:	PCK1 (PCK1 Products)
Background:	Phosphoenolpyruvate carboxykinase, cytosolic [GTP] (PEPCK-C) (EC 4.1.1.32) (Serine-protein kinase PCK1) (EC 2.7.11.-),FUNCTION: Cytosolic phosphoenolpyruvate carboxykinase that catalyzes the reversible decarboxylation and phosphorylation of oxaloacetate (OAA) and acts as the rate-limiting enzyme in gluconeogenesis (PubMed:30193097, PubMed:24863970, PubMed:26971250, PubMed:28216384). Regulates cataplerosis and anaplerosis, the processes that control the levels of metabolic intermediates in the citric acid cycle (PubMed:30193097, PubMed:24863970, PubMed:26971250, PubMed:28216384). At low glucose levels, it catalyzes the cataplerotic conversion of oxaloacetate to phosphoenolpyruvate (PEP), the rate-limiting step in the metabolic pathway that produces glucose from lactate and other precursors derived from the citric acid cycle (PubMed:30193097). At high glucose levels, it catalyzes the anaplerotic conversion of phosphoenolpyruvate to oxaloacetate (PubMed:30193097). Acts as a regulator of formation and maintenance of memory CD8(+) T-cells: up-regulated in these cells, where it generates phosphoenolpyruvate, via gluconeogenesis (By similarity). The resultant phosphoenolpyruvate flows to glycogen and pentose phosphate pathway, which is essential for memory CD8(+) T-cells homeostasis (By similarity). In addition to the phosphoenolpyruvate carboxykinase activity, also acts as a protein kinase when phosphorylated at Ser-90: phosphorylation at Ser-90 by AKT1 reduces the binding affinity to oxaloacetate and promotes an atypical serine protein kinase activity using GTP as donor (PubMed:32322062). The protein kinase activity regulates lipogenesis: upon phosphorylation at Ser-90, translocates to the endoplasmic reticulum and catalyzes phosphorylation of INSIG proteins (INSIG1 and INSIG2), thereby disrupting the interaction between INSIG proteins and SCAP and promoting nuclear translocation of SREBP proteins (SREBF1/SREBP1 or SREBF2/SREBP2) and subsequent transcription of downstream lipogenesis-related genes (PubMed:32322062). {ECO:0000250|UniProtKB:Q9Z2V4, ECO:0000269|PubMed:24863970, ECO:0000269|PubMed:26971250, ECO:0000269|PubMed:28216384, ECO:0000269|PubMed:30193097, ECO:0000269|PubMed:32322062}.
Molecular Weight:	69.2 kDa
UniProt:	P35558
Pathways:	Positive Regulation of Peptide Hormone Secretion, Carbohydrate Homeostasis

Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from Nicotiana tabacum c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications. During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months