

Datasheet for ABIN3092528

PTK2B Protein (AA 1-1009) (Strep Tag)**1** Image[Go to Product page](#)

Overview

Quantity:	1 mg
Target:	PTK2B
Protein Characteristics:	AA 1-1009
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PTK2B protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MSGVSEPLSR VKLGLRRPE GPAEPMVVVP VDVEKEDVRI LKVCFYNSF NPGKNFKLVK CTVQTEIREI ITSILLSGRI GPNIRLAECY GLRLKHKMSD EIHWLHPQMT VGEVQDKYEC LHVEAEWRYD LQIRYLPEDF MESLKEDRTT LLYFYQQLRN DYMQRYSKSV SEGMAQLGCG LELRRFFKDM PHNALDKKSN FELLEKEVGL DLFFPKQMGE NLKPKQFRKM IQQTFQQYAS LREEECVMKF FNTLAGFANI DQETYRCELI QGWNITVDLV IGPKGIRQLT SQDAKPTCLA EFKQIRSIRC LPLEEGQAVL QLGIEGAPQA LSIKTSSLAE AENMADLIDG YCRLQGEHQG SLIIHPRKDG EKRNSLPQIP MLNLEARRSH LSESCSIESD IYAEIPDETL RRPGGPQYGI AREDVVLNRI LGEGFFGEVY EGVYTNHKG E KINVAVKTC KDCITLDNKEK FMSEAVIMKN LDHPHIVKLI GIIIEEPTWI IMELYPYGE L GHYLERNKNS LKVLTLVLYS LQICKAMAYL ESINCVHRDI AVRNLVASP ECVKLGDFGL SRYIEDEDYY KASVTRLPIK WMSPESINFR RFTTASDVWM FAVCMWEILS FGKQPFFWLE NKDVIGVLEK GDRLPKPDLC PPVLYTLMTR CWDYDPSDRP RFTELVCSSL DVYQMEKDIA MEQERNARYR TPKILEPTAF QEPPPKPSRP
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KYRPPPQTNL LAPKLQFQVP EGLCASSPTL TSPMEYPSPV NSLHTPPLHR HNVFKRHSMR
EEDFIQPSSR EEAQQLWEAE KVKMRQILDK QKQKMVEDYQ WLRQEEKSLD PMVYMNDKSP
LTPEKEVGYL EFTGPPQKPP RLGAQSIQPT ANLDRTDDLVL YLNMELVRA VLELKNELCQ
LPPEGYVVVV KNVGLTLRKL IGSVDDLLPS LPSSSRTEIE GTQKLLNKDL AELINKMRLA
QQNAVTSLSE ECKRQMLTAS HTLAVDAKNL LDAVDQAKVL ANLAHPPAE

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 by multi-step, protein-specific process to ensure correct folding and modification.
- 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 will ensure that you receive a correctly folded 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 in several dilutions and is measured against its

Product Details

- specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:	Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®): 1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. Eluate fractions are analyzed by SDS-PAGE. 2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

Target Details

Target:	PTK2B
Alternative Name:	PTK2B (PTK2B Products)
Background:	Protein-tyrosine kinase 2-beta (EC 2.7.10.2) (Calcium-dependent tyrosine kinase) (CADTK) (Calcium-regulated non-receptor proline-rich tyrosine kinase) (Cell adhesion kinase beta) (CAK-beta) (CAKB) (Focal adhesion kinase 2) (FADK 2) (Proline-rich tyrosine kinase 2) (Related adhesion focal tyrosine kinase) (RAFTK),FUNCTION: Non-receptor protein-tyrosine kinase that regulates reorganization of the actin cytoskeleton, cell polarization, cell migration, adhesion, spreading and bone remodeling. Plays a role in the regulation of the humoral immune response, and is required for normal levels of marginal B-cells in the spleen and normal migration of splenic B-cells. Required for normal macrophage polarization and migration towards sites of inflammation. Regulates cytoskeleton rearrangement and cell spreading in T-cells, and contributes to the regulation of T-cell responses. Promotes osteoclastic bone resorption, this requires both PTK2B/PYK2 and SRC. May inhibit differentiation and activity of osteoprogenitor cells. Functions in signaling downstream of integrin and collagen receptors, immune receptors, G-protein coupled receptors (GPCR), cytokine, chemokine and growth factor receptors, and mediates responses to cellular stress. Forms multisubunit signaling complexes with SRC and SRC family members upon activation, this leads to the phosphorylation of additional tyrosine residues, creating binding sites for scaffold proteins, effectors and substrates. Regulates

numerous signaling pathways. Promotes activation of phosphatidylinositol 3-kinase and of the AKT1 signaling cascade. Promotes activation of NOS3. Regulates production of the cellular messenger cGMP. Promotes activation of the MAP kinase signaling cascade, including activation of MAPK1/ERK2, MAPK3/ERK1 and MAPK8/JNK1. Promotes activation of Rho family GTPases, such as RHOA and RAC1. Recruits the ubiquitin ligase MDM2 to P53/TP53 in the nucleus, and thereby regulates P53/TP53 activity, P53/TP53 ubiquitination and proteasomal degradation. Acts as a scaffold, binding to both PDPK1 and SRC, thereby allowing SRC to phosphorylate PDPK1 at 'Tyr-9, 'Tyr-373', and 'Tyr-376'. Promotes phosphorylation of NMDA receptors by SRC family members, and thereby contributes to the regulation of NMDA receptor ion channel activity and intracellular Ca(2+) levels. May also regulate potassium ion transport by phosphorylation of potassium channel subunits. Phosphorylates SRC, this increases SRC kinase activity. Phosphorylates ASAP1, NPHP1, KCNA2 and SHC1. Promotes phosphorylation of ASAP2, RHOU and PXN, this requires both SRC and PTK2/PYK2.

{ECO:0000269|PubMed:10022920, ECO:0000269|PubMed:12771146, ECO:0000269|PubMed:12893833, ECO:0000269|PubMed:14585963, ECO:0000269|PubMed:15050747, ECO:0000269|PubMed:15166227, ECO:0000269|PubMed:17634955, ECO:0000269|PubMed:18086875, ECO:0000269|PubMed:18339875, ECO:0000269|PubMed:18587400, ECO:0000269|PubMed:18765415, ECO:0000269|PubMed:19086031, ECO:0000269|PubMed:19207108, ECO:0000269|PubMed:19244237, ECO:0000269|PubMed:19428251, ECO:0000269|PubMed:19648005, ECO:0000269|PubMed:19880522, ECO:0000269|PubMed:20001213, ECO:0000269|PubMed:20381867, ECO:0000269|PubMed:20521079, ECO:0000269|PubMed:21357692, ECO:0000269|PubMed:21533080, ECO:0000269|PubMed:7544443, ECO:0000269|PubMed:8670418, ECO:0000269|PubMed:8849729}.

Molecular Weight: 115.9 kDa

UniProt: [Q14289](#)

Pathways: [EGFR Signaling Pathway](#), [Regulation of Actin Filament Polymerization](#), [Carbohydrate Homeostasis](#), [Glycosaminoglycan Metabolic Process](#), [Cellular Glucan Metabolic Process](#), [Cell-Cell Junction Organization](#), [Regulation of Cell Size](#), [Regulation of Carbohydrate Metabolic Process](#), [Hepatitis C](#), [Protein targeting to Nucleus](#), [CXCR4-mediated Signaling Events](#), [Signaling Events mediated by VEGFR1 and VEGFR2](#), [Signaling of Hepatocyte Growth Factor Receptor](#), [Positive Regulation of fat Cell Differentiation](#), [VEGF Signaling](#)

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.
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Comment:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> 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.</p> <p>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!</p>
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Restrictions:	For Research Use only
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Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process