Datasheet for ABIN3095568

SIK1 Protein (AA 1-783) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	SIK1
Protein Characteristics:	AA 1-783
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This SIK1 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MVIMSEFSAD PAGQGQGQQK PLRVGFYDIE RTLGKGNFAV VKLARHRVTK TQVAIKIIDK TRLDSSNLEK IYREVQLMKL LNHPHIIKLY QVMETKDMLY IVTEFAKNGE MFDYLTSNGH LSENEARKKF WQILSAVEYC HDHHIVHRDL KTENLLLDGN MDIKLADFGF GNFYKSGEPL STWCGSPPYA APEVFEGKEY EGPQLDIWSL GVVLYVLVCG SLPFDGPNLP TLRQRVLEGR FRIPFFMSQD CESLIRRMLV VDPARRITIA QIRQHRWMRA EPCLPGPACP AFSAHSYTSN LGDYDEQALG IMQTLGVDRQ RTVESLQNSS YNHFAAIYYL LLERLKEYRN AQCARPGPAR QPRPRSSDLS GLEVPQEGLS TDPFRPALLC PQPQTLVQSV LQAEMDCELQ SSLQWPLFFP VDASCSGVFR PRPVSPSSLL DTAISEEARQ GPGLEEEQDT QESLPSSTGR RHTLAEVSTR LSPLTAPCIV VSPSTTASPA EGTSSDSCLT FSASKSPAGL SGTPATQGLL GACSPVRLAS PFLGSQSATP VLQAQGGLGG AVLLPVSFQE GRRASDTSLT QGLKAFRQQL RKTTRTKGFL GLNKIKGLAR QVCQAPASRA SRGGLSPFHA PAQSPGLHGG AAGSREGWSL LEEVLEQQRL LQLQHHPAAA PGCSQAPQPA PAPFVIAPCD GPGAAPLPST LLTSGLPLLP PPLLQTGASP

	VASAAQLLDT HLHIGTGPTA LPAVPPPRLA RLAPGCEPLG LLQGDCEMED LMPCSLGTFV LVQ **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 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

Product Details

	(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:	SIK1
Alternative Name:	SIK1 (SIK1 Products)
Background:	Serine/threonine-protein kinase SIK1 (EC 2.7.11.1) (Salt-inducible kinase 1) (SIK-1) (Serine/threonine-protein kinase SNF1-like kinase 1) (Serine/threonine-protein kinase SNF1LK),FUNCTION: Serine/threonine-protein kinase involved in various processes such as cell cycle regulation, gluconeogenesis and lipogenesis regulation, muscle growth and differentiation and tumor suppression. Phosphorylates HDAC4, HDAC5, PPME1, SREBF1, CRTC1/TORC1. Inhibits CREB activity by phosphorylating and inhibiting activity of TORCs, the CREB-specific coactivators, like CRTC2/TORC2 and CRTC3/TORC3 in response to cAMP signaling (PubMed:29211348). Acts as a tumor suppressor and plays a key role in p53/TP53-dependent anoikis, a type of apoptosis triggered by cell detachment: required for phosphorylation of p53/TP53 in response to loss of adhesion and is able to suppress metastasis. Part of a sodium-sensing signaling network, probably by mediating phosphorylation of PPME1: following increases in intracellular sodium, SIK1 is activated by CaMK1 and phosphorylates PPME1 subunit of protein phosphatase 2A (PP2A), leading to dephosphorylation of sodium/potassium-transporting ATPase ATP1A1 and subsequent increase activity of ATP1A1. Acts as a regulator of muscle cells by phosphorylating and inhibiting class II histone deacetylases HDAC4 and HDAC5, leading to promote expression of MEF2 target genes in myocytes. Also required during cardiomyogenesis by regulating the exit of cardiomyoblasts from the cell cycle via down-regulation of CDKN1C/p57Kip2. Acts as a regulator of hepatic gluconeogenesis by phosphorylating and repressing the CREB-specific coactivators CRTC1/TORC1 and CRTC2/TORC2, leading to inhibit CREB activity. Also regulates hepatic lipogenesis by phosphorylating and inhibiting SREBF1. In concert with CRTC1/TORC1, regulates the light-

Target Details

	induced entrainment of the circadian clock by attenuating PER1 induction, represses CREB-mediated transcription of PER1 by phosphorylating and deactivating CRTC1/TORC1 (By similarity). {ECO:0000250|UniProtKB:Q60670, ECO:0000269|PubMed:14976552, ECO:0000269|PubMed:16306228, ECO:0000269|PubMed:18348280, ECO:0000269|PubMed:19622832, ECO:0000269|PubMed:29211348}.
Molecular Weight:	84.9 kDa
UniProt:	P57059
Pathways:	Regulation of Muscle Cell Differentiation, Skeletal Muscle Fiber Development, Regulation of Carbohydrate Metabolic Process

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. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C

Handling

Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Images

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

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