Datasheet for ABIN3082190

CAMK2A Protein (AA 1-478) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	CAMK2A
Protein Characteristics:	AA 1-478
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CAMK2A protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MATITCTRFT EEYQLFEELG KGAFSVVRRC VKVLAGQEYA AKIINTKKLS ARDHQKLERE ARICRLLKHP NIVRLHDSIS EEGHHYLIFD LVTGGELFED IVAREYYSEA DASHCIQQIL EAVLHCHQMG VVHRDLKPEN LLLASKLKGA AVKLADFGLA IEVEGEQQAW FGFAGTPGYL SPEVLRKDPY GKPVDLWACG VILYILLVGY PPFWDEDQHR LYQQIKAGAY DFPSPEWDTV TPEAKDLINK MLTINPSKRI TAAEALKHPW ISHRSTVASC MHRQETVDCL KKFNARRKLK GAILTTMLAT RNFSGGKSGG NKKSDGVKES SESTNTTIED EDTKVRKQEI IKVTEQLIEA ISNGDFESYT KMCDPGMTAF EPEALGNLVE GLDFHRFYFE NLWSRNSKPV HTTILNPHIH LMGDESACIA YIRITQYLDA GGIPRTAQSE ETRVWHRRDG KWQIVHFHRS GAPSVLPH **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 (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.

Product Details

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)

Target Details

Target:	CAMK2A
Alternative Name:	CAMK2A (CAMK2A Products)
Background:	Calcium/calmodulin-dependent protein kinase type II subunit alpha (CaM kinase II subunit alpha) (CaMK-II subunit alpha) (EC 2.7.11.17),FUNCTION: Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca(2+)/calmodulin-binding and autophosphorylation, and is involved in various processes, such as synaptic plasticity, neurotransmitter release and long-term potentiation (PubMed:14722083). Member of the NMDAR signaling complex in excitatory synapses, it regulates NMDAR-dependent potentiation of the AMPAR and therefore excitatory synaptic transmission (By similarity). Regulates dendritic spine development (PubMed:28130356). Also regulates the migration of developing neurons (PubMed:29100089). Phosphorylates the transcription factor FOXO3 to activate its transcriptional activity (PubMed:23805378). Phosphorylates the transcription factor ETS1 in response to calcium signaling, thereby decreasing ETS1 affinity for DNA (By similarity). In response to interferon-gamma (IFN-gamma) stimulation, catalyzes phosphorylation of STAT1, stimulating the JAK-STAT signaling pathway (PubMed:11972023). In response to interferon-beta (IFN-beta) stimulation, stimulates the JAK-STAT signaling pathway (PubMed:35568036). Acts as a negative regulator of 2-arachidonoylglycerol (2-AG)-mediated synaptic signaling via modulation of DAGLA activity (By similarity). {ECO:0000250|UniProtKB:P11275, ECO:0000250|UniProtKB:P11798, ECO:0000269|PubMed:11972023, ECO:0000269|PubMed:23805378, ECO:0000269|PubMed:28130356, ECO:0000269|PubMed:29100089}.
Molecular Weight:	54.1 kDa
UniProt:	Q9UQM7
Pathways:	WNT Signaling, Interferon-gamma Pathway, Myometrial Relaxation and Contraction

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.

Application Details

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