Datasheet for ABIN3113175

Kv1.4 Protein (AA 1-653) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	Kv1.4 (KCNA4)
Protein Characteristics:	AA 1-653
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This Kv1.4 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MEVAMVSAES SGCNSHMPYG YAAQARARER ERLAHSRAAA AAAVAAATAA VEGSGGSGGG SHHHHQSRGA CTSHDPQSSR GSRRRRRQRS EKKKAHYRQS SFPHCSDLMP SGSEEKILRE LSEEEEDEEE EEEEEEEGRF YYSEDDHGDE CSYTDLLPQD EGGGGYSSVR YSDCCERVVI NVSGLRFETQ MKTLAQFPET LLGDPEKRTQ YFDPLRNEYF FDRNRPSFDA ILYYYQSGGR LKRPVNVPFD IFTEEVKFYQ LGEEALLKFR EDEGFVREEE DRALPENEFK KQIWLLFEYP ESSSPARGIA IVSVLVILIS IVIFCLETLP EFRDDRDLVM ALSAGGHGGL LNDTSAPHLE NSGHTIFNDP FFIVETVCIV WFSFEFVVRC FACPSQALFF KNIMNIIDIV SILPYFITLG TDLAQQQGGG NGQQQQAMSF AILRIIRLVR VFRIFKLSRH SKGLQILGHT LRASMRELGL LIFFLFIGVI LFSSAVYFAE ADEPTTHFQS IPDAFWWAVV TMTTVGYGDM KPITVGGKIV GSLCAIAGVL TIALPVPVIV SNFNYFYHRE TENEEQTQLT QNAVSCPYLP SNLLKKFRSS TSSSLGDKSE YLEMEEGVKE SLCAKEEKCQ GKGDDSETDK NNCSNAKAVE TDV **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

Product Details

	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:	Kv1.4 (KCNA4)
Alternative Name:	KCNA4 (KCNA4 Products)
Background:	Potassium voltage-gated channel subfamily A member 4 (HPCN2) (Voltage-gated K(+) channel HuKII) (Voltage-gated potassium channel HBK4) (Voltage-gated potassium channel HK1) (Voltage-gated potassium channel subunit Kv1.4),FUNCTION: Voltage-gated potassium channel that mediates transmembrane potassium transport in excitable membranes. Forms tetrameric potassium-selective channels through which potassium ions pass in accordance with their electrochemical gradient. The channel alternates between opened and closed conformations in response to the voltage difference across the membrane (PubMed:19912772, PubMed:8495559). Can form functional homotetrameric channels and heterotetrameric channels that contain variable proportions of KCNA1, KCNA2, KCNA4, KCNA5, and possibly other family members as well, channel properties depend on the type of alpha subunits that are part of the channel (PubMed:8495559). Channel properties are modulated by cytoplasmic beta subunits that regulate the subcellular location of the alpha subunits and promote rapid inactivation. In vivo, membranes probably contain a mixture of heteromeric potassium channel complexes, making it difficult to assign currents observed in intact tissues to any particular potassium channel family member. Homotetrameric KCNA4 forms a potassium channel that opens in response to membrane depolarization, followed by rapid spontaneous channel closure (PubMed:19912772, PubMed:8495559). Likewise, a heterotetrameric channel formed by KCNA1 and KCNA4 shows rapid inactivation (PubMed:17156368). {ECO:0000269|PubMed:17156368, ECO:0000269|PubMed:19912772, ECO:0000269|PubMed:27582084, ECO:0000269|PubMed:8495559}.
Molecular Weight:	73.3 kDa
UniProt:	P22459

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
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