Datasheet for ABIN3131250

KCNK1 Protein (AA 1-336) (rho-1D4 tag)

1 Image

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Overview

Quantity:	1 mg
Target:	KCNK1
Protein Characteristics:	AA 1-336
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This KCNK1 protein is labelled with rho-1D4 tag.
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

Product Details

Sequence:	MLQSLAGSSC VRLVERHRSA WCFGFLVLGY LLYLVFGAVV FSSVELPYED LLRQELRKLK RRFLEEHECL SEPQLEQFLG RVLEASNYGV SVLSNASGNW NWDFTSALFF ASTVLSTTGY GHTVPLSDGG KAFCIIYSVI GIPFTLLFLT AVVQRVTVHV TRRPVLYFHI RWGFSKQVVA IVHAVLLGFV TVSCFFFIPA AVFSVLEDDW NFLESFYFCF ISLSTIGLGD YVPGEGYNQK FRELYKIGIT CYLLLGLIAM LVVLETFCEL HELKKFRKMF YVKKDKDEDL VHIMEHDQLS FSSVTEQVAG LKEEQKQSEP FVASQSPPYE DGSADH **Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.**
Characteristics:	• Made in Germany - from design to production - by highly experienced protein experts. • Mouse Kcnk1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade. • State-of-the-art algorithm used for plasmid design (Gene synthesis).

Product Details

	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. In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization). When you order this made-to-order protein you will only pay upon receival of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered. 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. The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.
Purification:	Three step purification of membrane proteins expressed in baculovirus infected SF9 insect cells: 1. Membrane proteins are fractioned by ultracentrifugation and subsequently solubilized with different detergents (detergent screen). Samples are analyzed by Western blot. 2. The best performing detergent is used for solubilization and the proteins are purified via their rho1D4 tag via two rho1D4 antibody columns: one DTT resistant, the other one not. Eluate fractions are analyzed by Western blot. 3. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatograph. Eluate fractions are analyzed by SDS-PAGE and Western blot.
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin-free.
Grade:	Crystallography grade

Target Details

Target:	KCNK1

Target Details

Alternative Name:	Kcnk1 (KCNK1 Products)
Background:	Ion channel that contributes to passive transmembrane potassium transport and to the regulation of the resting membrane potential in brain astrocytes, but also in kidney and in other tissues (PubMed:16847696, PubMed:22431633, PubMed:24368895). Forms dimeric channels through which potassium ions pass in accordance with their electrochemical gradient. The channel is selective for K(+) ions at physiological potassium concentrations and at neutral pH , but becomes permeable to Na(+) at subphysiological K(+) levels and upon acidification of the extracellular medium. The homodimer has very low potassium channel activity, when expressed in heterologous systems, and can function as weakly inward rectifying potassium channel (PubMed:9013852, PubMed:24496152). Channel activity is modulated by activation of serotonin receptors (PubMed:24368895). Heterodimeric channels containing KCNK1 and KCNK2 have much higher activity, and may represent the predominant form in astrocytes (PubMed:24496152). Heterodimeric channels containing KCNK1 and KCNK3 or KCNK9 have much higher activity. Heterodimeric channels formed by KCNK1 and KCNK9 may contribute to halothane-sensitive currents (By similarity). Mediates outward rectifying potassium currents in dentate gyrus granule cells and contributes to the regulation of their resting membrane potential (PubMed:25406588). Contributes to the regulation of action potential firing in dentate gyrus granule cells and down-regulates their intrinsic excitability (PubMed:25406588). In astrocytes, the heterodimer formed by KCNK1 and KCNK2 is required for rapid glutamate release in response to activation of G-protein coupled receptors, such as F2R and CNR1 (PubMed:24496152). Required for normal ion and water transport in the kidney (PubMed:16025300). Contributes to the regulation of the resting membrane potential of pancreatic beta cells (PubMed:22431633). The low channel activity of homodimeric KCNK1 may be due to sumoylation. The low channel activity may be due to rapid internalization from the cell membrane and retention in recycling endosomes (PubMed:15540117). {ECO:0000250|UniProtKB:O00180, ECO:0000250|UniProtKB:Q9Z2T2, ECO:0000269|PubMed:15540117, ECO:0000269|PubMed:16025300, ECO:0000269|PubMed:16847696, ECO:0000269|PubMed:22431633, ECO:0000269|PubMed:24368895, ECO:0000269|PubMed:24496152, ECO:0000269|PubMed:9013852}.
Molecular Weight:	39.4 kDa Including tag.
UniProt:	O08581

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 gurantee though.
Comment:	Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Images

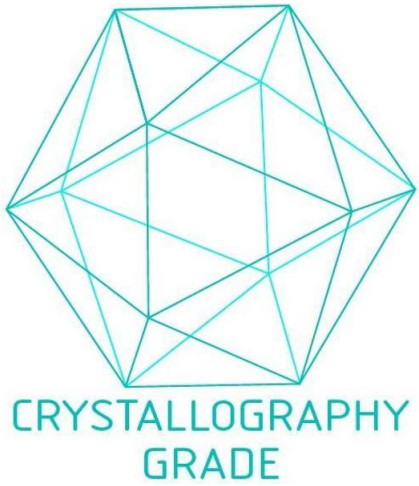

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process