

Datasheet for ABIN3096394

WNK4 Protein (AA 1-1243) (Strep Tag)



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Overview

Quantity:	250 µg
Target:	WNK4
Protein Characteristics:	AA 1-1243
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This WNK4 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Brand:	ALICE®
Sequence:	<p>MLASPATETT VLMSQTEADL ALRPPPPPLGT AGQPRLGPPP RRARRFSGKA EPRPRSSRLS</p> <p>RRSSVDLGLL SSWSLPASPA PDPPDPPDSA GPGPARSPPP SSKEPPEGTW TEGAPVKAEE</p> <p>DSARPELPDS AVGPGSREPL RVPEAVALER RREQEEKEDM ETQAVATSPD GRYLKFDIEI</p> <p>GRGSFKTVYR GLDTRTTVEV AWCELQTRKL SRAERQRFSE EVEMLKGLQH PNIVRFYDSW</p> <p>KSVLRGQVCI VLVTCLMTSG TLKTYLRRFR EMKPRVLQRW SRQILRGLHF LHSRVPPILH</p> <p>RDLKCDNVFI TGPTGSVKIG DLGLATLKRA SFAKSVIGTP EFMAPEMYEE KYDEAVDVYA</p> <p>FGMCMLEMAT SEYPYSECQN AAQIYRKVTS GRKPNSFHKV KIPEVKEIIE GCIRTDKNER</p> <p>FTIQDLLAHA FFREERGTVH ELAEEDDGEK PGLKLWLRME DARRGGRPRD NQAIEFLFQL</p> <p>GRDAAEEVAQ EMVALGLVCE ADYQPVAVAR RERVAAIQRK REKLKAREL EALPPEPGPP</p> <p>PATVPMAPGP PSVFPPEPEE PEADQHQPFL FRHASYSSTT SDCETDGYLS SSGFLDASDP</p> <p>ALQPPGGVPS SLAESHCLP SAFALSIPRS GPGSDFSPGD SYASDAASGL SDVGEGMGQM</p>

RRPPGRNLRR RPRSRLRVTS VSDQNDRVVE CQLQTHNSKM VTRFDLDGD SPEEIAAMV
YNEFILPSEY DGFLRRIREI IQRVETLLKR DTGPMEEAED TLSPQEEPAP LPALPVPLPD
PSNEELQSST SLEHRSWTAF STSSSSPGTP LSPGNPFSPG TPISPGPIFP ITSPPCHPSP
SPFSPISQV SSNPSPHPTS SPLPFSSSTP EFPVPLSQCP WSSLPTTSP TFSTCSQVT
LSSPFFPPCP STSSFPSTTA APLLSLASAF SLAVMTVAQS LLSPSPGLLS QSPAPPSP
PSLPLPPPVA PGGQESPSH TAEVESEASP PPARPLPGEA RLAPISEEGK PQLVGRFQVT
SSKEPAEPLP LQPTSPSTLSG SPKPSTPQLT SESSDTEDSA GGGPETREAL AESDRAEGL
GAGVEEEGDD GKEPQVGGSP QPLSHPSPVW MNYSYSSLCL SSESESSGE DEEFWAEQSL
LRQKHLSEVE TLQTLQKKEI EDLYSRLGKQ PPPGIVAPAA MLSSRQRRLS KGSFPTSRRL
SLQRSEPPGP GIMRRNSLSG SSTGSQEQRA SKGVTFAGDV GRM

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 in one-step affinity chromatography
- 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 try to ensure that you receive soluble 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 against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:	One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (ALICE®).
Purity:	> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).
Grade:	custom-made

Target Details

Target:	WNK4
Alternative Name:	WNK4 (WNK4 Products)
Background:	<p>Serine/threonine-protein kinase WNK4 (EC 2.7.11.1) (Protein kinase lysine-deficient 4) (Protein kinase with no lysine 4),FUNCTION: Serine/threonine-protein kinase component of the WNK4-SPAK/OSR1 kinase cascade, which acts as a key regulator of ion transport in the distal nephron and blood pressure (By similarity). The WNK4-SPAK/OSR1 kinase cascade is composed of WNK4, which mediates phosphorylation and activation of downstream kinases OXSR1/OSR1 and STK39/SPAK (PubMed:16832045). Following activation, OXSR1/OSR1 and STK39/SPAK catalyze phosphorylation of ion cotransporters, such as SLC12A1/NKCC2, SLC12A2/NKCC1, SLC12A3/NCC, SLC12A5/KCC2 or SLC12A6/KCC3, regulating their activity (PubMed:16832045, PubMed:22989884). Acts as a molecular switch that regulates the balance between renal salt reabsorption and K(+) secretion by modulating the activities of renal transporters and channels, including the Na-Cl cotransporter SLC12A3/NCC and the K(+) channel, KCNJ1/ROMK (By similarity). Regulates NaCl reabsorption in the distal nephron by activating the thiazide-sensitive Na-Cl cotransporter SLC12A3/NCC in distal convoluted tubule cells of kidney: activates SLC12A3/NCC in a OXSR1/OSR1- and STK39/SPAK-dependent process (By similarity). Also acts as a scaffold protein independently of its protein kinase activity: negatively regulates cell membrane localization of various transporters and channels (CFTR, KCNJ1/ROMK, SLC4A4, SLC26A9 and TRPV4) by clathrin-dependent endocytosis (By similarity). Also inhibits the activity of the epithelial Na(+) channel (ENaC) SCNN1A, SCNN1B, SCNN1D in a inase-independent mechanism (By similarity). May also phosphorylate NEDD4L (PubMed:20525693).</p> <p>{ECO:0000250 UniProtKB:Q80UE6, ECO:0000269 PubMed:16832045,</p>

Target Details

ECO:0000269|PubMed:20525693, ECO:0000269|PubMed:22989884}.

Molecular Weight: 134.7 kDa

UniProt: [Q96J92](#)

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.
Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol **Might differ depending on protein.**

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: 12 months