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Datasheet for ABIN3093409

## KIF7 Protein (AA 1-1343) (Strep Tag)

### 1 Image

#### Overview

Quantity:	1 mg
Target:	KIF7
Protein Characteristics:	AA 1-1343
Origin:	Human
Source:	Tobacco ( <i>Nicotiana tabacum</i> )
Protein Type:	Recombinant
Purification tag / Conjugate:	This KIF7 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

#### Product Details

Sequence: MGLEAQLRPG AEEAPVRVAL RVRPLLKEL LHGHQSCLQV EPGLGRVTLG RDRHFGFHVV  
LAEDAGQEAV YQACVQPLLE AFFEGFNATV FAYGQTGSGK TYTMGEASVA SLLEDEQGIV  
PRAMAEAFKL IDENDLLDCL VHSVSYLEVYK EEFRDLLLEV TASRDIQLRE DERGNVVLGC  
VKEVDVEGLD EVLSLLEMGN AARHTGATHL NHLSSRSHTV FVTLEQRGR APSRLPRPAP  
GQLLVSKFHF VDLAGSERVL KTGSTGERLK ESIQINSSLL ALGNVISALG DPQRRGSHIP  
YRDSKITRIL KDSLGGNAKT VMIACVSPSS SDFDETLNLT NYASRAQNI NRATVNRWPE  
AERPPEETAS GARGPPRHS ETRIIHRGRR APGPATASAA AAMRLGAECA RYRACTDAAY  
SLLRELQAEPLPGAAARKV RDWLCAVEGE RSALSSASGP DSGIESASVE DQAAQGAGGR  
KEDEGAQQLL TLQNQVARLE EENRDFLAAL EDAMEQYKLQ SDRLREQQEE MVELRLRLEL  
VRPGWGGPRL LNGLPPGSFV PRPHTAPLGG AHAHVLGMVP PACLPGDEVG SEQRGEQVTN  
GREAGAELLT EVNRLGSGSS AASEEEEEEE EPPRRTLHLR RNRISNCSQR AGARPGSLPE  
RKGPELCLLEE LDAIIPGSRA VGGSKARVQA RQVPPATASE WRLAQAAQKI RELAINIRMK

EELIGELVRT GKAAQALNRQ HSQRIRELEQ EAEQVRAELS EGQRQLRELE GKELQDAGER  
SRLQEFRRRV AAAQSQVQVL KEKKQATERL VLSAQSEKR LQELERNVQL MRQQQGQLQR  
RLREETEQRK RLEAEMSKRQ HRVKELELKH EQQKILKIK TEEIAAFQRK RRSNGSVV  
SLEQQQKIEE QKKWLDQEME KVLQRRALE ELGEELHKRE AILAKKEALM QEKTGLESKR  
LRSSQALNED IVRVSSRLEH LEKELSEKSG QLRQGSASQ QQIRGEIDSL RQEKDSSLKQ  
RLEIDGKLRQ GSLLSPEEER TLFQLDEAIE ALDAAIEYKN EAITCRQRL RASASLLSQ  
EMNLMAKLSY LSSSETRALL CKYFDKVVTL REEQHQQQIA FSELEMQLEE QQRLVYWLEV  
ALERQRLEMD RQLTLQQKEH EQNMQLLLQQ SRDHLGEGLA DSRRYEARI QALEKELGRY  
MWINQELKQK LGGVNAVGHSG RGGEKRSLS EGRQAPGNED ELHLAPPELLW LSPLTEGAPR  
TREETDLVH APLPLTWKRS SLCGEEQGSP EELRQREAAE PLVGRVLPVG EAGLPWNFGP  
LSKPRRELRR ASPGMIDVRK NPL

**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.**

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### 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

## Product Details

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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.

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Purification:	Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®):  <ol style="list-style-type: none"><li>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.</li><li>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.</li></ol>
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

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Target:	KIF7
Alternative Name:	KIF7 ( <a href="#">KIF7 Products</a> )
Background:	Kinesin-like protein KIF7,FUNCTION: Essential for hedgehog signaling regulation: acts both as a negative and positive regulator of sonic hedgehog (Shh) and Indian hedgehog (Ihh) pathways, acting downstream of SMO, through both SUFU-dependent and -independent mechanisms (PubMed:21633164). Involved in the regulation of microtubular dynamics. Required for proper organization of the ciliary tip and control of ciliary localization of SUFU-GLI2 complexes (By similarity). Required for localization of GLI3 to cilia in response to Shh. Negatively regulates Shh signaling by preventing inappropriate activation of the transcriptional activator GLI2 in the absence of ligand. Positively regulates Shh signaling by preventing the processing of the transcription factor GLI3 into its repressor form. In keratinocytes, promotes the dissociation of SUFU-GLI2 complexes, GLI2 nuclear translocation and Shh signaling activation (By similarity). Involved in the regulation of epidermal differentiation and chondrocyte development (By

## Target Details

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similarity). {ECO:0000250|UniProtKB:B7ZNG0, ECO:0000269|PubMed:21633164}.

Molecular Weight: 150.6 kDa

UniProt: [Q2M1P5](#)

Pathways: [Hedgehog Signaling](#)

## Application Details

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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

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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