

Datasheet for ABIN3134965

## Cullin 4A Protein (CUL4A) (AA 1-759) (Strep Tag)



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### Overview

Quantity:	250 µg
Target:	Cullin 4A (CUL4A)
Protein Characteristics:	AA 1-759
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This Cullin 4A protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

### Product Details

Brand:	AlIcE®
Sequence:	<p>MADEGPRKGS VSALMGRTNG LTKPAALAGG PAKPGGTGGS RKLVIKNFRD RPRLPDNYTQ</p> <p>DTWRKLHEAV KAIQSSTSIR YNLEELYQAV ENLCSHKVSP TLYKQLRQVC EDHVQAQILP</p> <p>FREDSLDSVL FLKKINTCWQ DHCRQMIMIR SIFLFLDRTY VLQNSMLPSI WDMGLELFRN</p> <p>HIISDRMVQS KTIDGILLI GRERSGEAVD RSLRLSLLSM LSDLQVYKDS FELKFLEETN</p> <p>CLYAAEQRL MQDREVPEYL NHVSKRLEEE ADRVITYLDH STQKPLIACV EKQLLGEHLT</p> <p>AILQKGLEHL LDENRVPDLT QMYQLFSRVK GGQHALLQHW SEYIKTFGTT IVINPEKDKD</p> <p>MVQDLLDFKD KVDHVVEVCF QRNERFINLM KESFETFINK RPNKPAELIA KHVDSKLRAG</p> <p>NKEATDEELE RILDKIMILF RFIHGKDVFE AFYKKDLAKR LLVGKSASVD AEKSMLSKLK</p> <p>HECGAFTSK LEGMFKDMEL SKDIMVHFKQ HMQNSAPGP IDLTVNILTM GYWPTYTPME</p> <p>VHLPPMEMVRL QEVFKTFYLG KHSGRKLQWQ TTLGHAVLKA DFKEGKKEFQ VSLFQTLVLL</p> <p>MFNEGDGFSF EEIKMATGIE DSELRTLQS LACGKARVLI KSPKGKEVED GDKFIFNADF</p>

KHKLFRIKIN QIQMKETVEE QVSTTERVFQ DRQYQIDAAI VRIMKMRKTL GHNLLVSELY  
NQLKFPVKPG DLKKRIESLI DRDYMERDKD SPNQYHYVA

**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 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®).

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## Product Details

Purity: > 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

Grade: custom-made

## Target Details

Target: Cullin 4A (CUL4A)

Alternative Name: Cul4a ([CUL4A Products](#))

Background: Cullin-4A (CUL-4A),FUNCTION: Core component of multiple cullin-RING-based E3 ubiquitin-protein ligase complexes which mediate the ubiquitination of target proteins. As a scaffold protein may contribute to catalysis through positioning of the substrate and the ubiquitin-conjugating enzyme. The E3 ubiquitin-protein ligase activity of the complex is dependent on the neddylation of the cullin subunit and is inhibited by the association of the deneddylated cullin subunit with TIP120A/CAND1. The functional specificity of the E3 ubiquitin-protein ligase complex depends on the variable substrate recognition component. DCX(DET1-COP1) directs ubiquitination of JUN. DCX(DDB2) directs ubiquitination of XPC. DCX(DDB2) ubiquitinates histones H3-H4 and is required for efficient histone deposition during replication-coupled (H3.1) and replication-independent (H3.3) nucleosome assembly, probably by facilitating the transfer of H3 from ASF1A/ASF1B to other chaperones involved in histone deposition. DCX(DTL) plays a role in PCNA-dependent polyubiquitination of CDT1 and MDM2-dependent ubiquitination of p53/TP53 in response to radiation-induced DNA damage and during DNA replication. DCX(DTL) directs autoubiquitination of DTL. In association with DDB1 and SKP2 probably is involved in ubiquitination of CDKN1B/p27kip. Is involved in ubiquitination of HOXA9. The DDB1-CUL4A-DTL E3 ligase complex regulates the circadian clock function by mediating the ubiquitination and degradation of CRY1. A number of DCX complexes (containing either TRPC4AP or DCAF12 as substrate-recognition component) are part of the DesCEND (destruction via C-end degrons) pathway, which recognizes a C-degron located at the extreme C terminus of target proteins, leading to their ubiquitination and degradation. With CUL4B, contributes to ribosome biogenesis. The DCX(AMBRA1) complex is a master regulator of the transition from G1 to S cell phase by mediating ubiquitination of phosphorylated cyclin-D (CCND1, CCND2 and CCND3). The DCX(AMBRA1) complex also acts as a regulator of Cul5-RING (CRL5) E3 ubiquitin-protein ligase complexes by mediating ubiquitination and degradation of Elongin-C (ELOC) component of CRL5 complexes. {ECO:0000250|UniProtKB:Q13619}.

Molecular Weight: 87.8 kDa

UniProt: [Q3TCH7](#)

## 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