Datasheet for ABIN3092025

# Cullin 1 Protein (CUL1) (AA 1-776) (Strep Tag)

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## Overview

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| Quantity: | 250 µg |
| Target: | Cullin 1 (CUL1) |
| Protein Characteristics: | AA 1-776 |
| Origin: | Human |
| Source: | Cell-free protein synthesis (CFPS) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This Cullin 1 protein is labelled with Strep Tag. |
| Application: | Western Blotting (WB), SDS-PAGE (SDS), ELISA |

## Product Details

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| Brand: | AliCE® |
| Sequence: | MSSTRSQNPH GLKQIGLDQI WDDLRAGIQQ VYTRQSMAKS RYMELYTHVY NYCTSVHQSN QARGAGVPPS KSKKGQTPGG AQFVGLELYK RLKEFLKNYL TNLLKDGEDL MDESVLKFYT QQWEDYRFSS KVLNGICAYL NRHWVRRECD EGRKGIYEIY SLALVTWRDC LFRPLNKQVT NAVLKLIEKE RNGETINTRL ISGVVQSYVE LGLNEDDAFA KGPTLTVYKE SFESQFLADT ERFYTRESTE FLQQNPVTEY MKKAEARLLE EQRRVQVYLH ESTQDELARK CEQVLIEKHL EIFHTEFQNL LDADKNEDLG RMYNLVSRIQ DGLGELKKLL ETHIHNQGLA AIEKCGEAAL NDPKMYVQTV LDVHKKYNAL VMSAFNNDAG FVAALDKACG RFINNNAVTK MAQSSSKSPE LLARYCDSLL KKSSKNPEEA ELEDTLNQVM VVFKYIEDKD VFQKFYAKML AKRLVHQNSA SDDAEASMIS KLKQACGFEY TSKLQRMFQD IGVSKDLNEQ FKKHLTNSEP LDLDFSIQVL SSGSWPFQQS CTFALPSELE RSYQRFTAFY ASRHSGRKLT WLYQLSKGEL VTNCFKNRYT LQASTFQMAI LLQYNTEDAY TVQQLTDSTQ IKMDILAQVL QILLKSKLLV LEDENANVDE |

VELKPDTLIK LYLGYKNKKL RVNINVPMKT EQKQEQETTH KNIEEDRKLL IQAAIVRIMK MRKVLKHQQL LGEVLTQLSS RFKPRVPVIK KCIDILIEKE YLERVDGEKD TYSYLA

**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®).

## Product Details

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

## Target Details

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| Target: | Cullin 1 (CUL1) |
| Alternative Name: | CUL1 (CUL1 Products) |
| Background: | Cullin-1 (CUL-1),FUNCTION: Core component of multiple cullin-RING-based SCF (SKP1-CUL1-F-box protein) E3 ubiquitin-protein ligase complexes, which mediate the ubiquitination of proteins involved in cell cycle progression, signal transduction and transcription. SCF complexes and ARIH1 collaborate in tandem to mediate ubiquitination of target proteins (PubMed:27565346, PubMed:22017875, PubMed:22017877). In the SCF complex, serves as a rigid scaffold that organizes the SKP1-F-box protein and RBX1 subunits. 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 exchange of the substrate recognition component is mediated by TIP120A/CAND1. The functional specificity of the SCF complex depends on the F-box protein as substrate recognition component. SCF(BTRC) and SCF(FBXW11) direct ubiquitination of CTNNB1 and participate in Wnt signaling. SCF(FBXW11) directs ubiquitination of phosphorylated NFKBIA. SCF(BTRC) directs ubiquitination of NFKBIB, NFKBIE, ATF4, SMAD3, SMAD4, CDC25A, FBXO5 and probably NFKB2. SCF(BTRC) and/or SCF(FBXW11) direct ubiquitination of CEP68 (PubMed:25704143, PubMed:25503564). SCF(SKP2) directs ubiquitination of phosphorylated CDKN1B/p27kip and is involved in regulation of G1/S transition. SCF(SKP2) directs ubiquitination of ORC1, CDT1, RBL2, ELF4, CDKN1A, RAG2, FOXO1A, and probably MYC and TAL1. SCF(FBXW7) directs ubiquitination of CCNE1, NOTCH1 released notch intracellular domain (NICD), and probably PSEN1. SCF(FBXW2) directs ubiquitination of GCM1. SCF(FBXO32) directs ubiquitination of MYOD1. SCF(FBXO7) directs ubiquitination of BIRC2 and DLGAP5. SCF(FBXO33) directs ubiquitination of YBX1. SCF(FBXO1) directs ubiquitination of BCL6 and DTL but does not seem to direct ubiquitination of TP53. SCF(BTRC) mediates the ubiquitination of NFKBIA at 'Lys-21' and 'Lys-22', the degradation frees the associated NFKB1-RELA dimer to translocate into the nucleus and to activate transcription. SCF(CCNF) directs ubiquitination of CCP110. SCF(FBXL3) and SCF(FBXL21) direct ubiquitination of CRY1 and CRY2. SCF(FBXO9) directs ubiquitination of TTI1 and TELO2. SCF(FBXO10) directs ubiquitination of BCL2. {ECO:0000269\|PubMed:15531760, ECO:0000269\|PubMed:15640526, ECO:0000269\|PubMed:18644861, ECO:0000269\|PubMed:19679664, |

## Target Details

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| | ECO:0000269\|PubMed:22017875, ECO:0000269\|PubMed:22017877, ECO:0000269\|PubMed:22113614, ECO:0000269\|PubMed:22405651, ECO:0000269\|PubMed:23263282, ECO:0000269\|PubMed:23431138, ECO:0000269\|PubMed:25503564, ECO:0000269\|PubMed:25704143, ECO:0000269\|PubMed:27565346, ECO:0000269\|PubMed:9663463}. |
| Molecular Weight: | 89.7 kDa |
| UniProt: | Q13616 |
| Pathways: | Cell Division Cycle, Hedgehog Signaling, Mitotic G1-G1/S Phases, Regulation of Cell Size |

## 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.<br>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.<br>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. |

## Handling

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| Expiry Date: | 12 months |