

Datasheet for ABIN3136109

## DISC1 Protein (AA 1-852) (Strep Tag)



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### Overview

|                               |  |
|-------------------------------|--|
| Quantity:                     | 250 µg   |
| Target:                       | DISC1  |
| Protein Characteristics:      | AA 1-852                                       |
| Origin:                       | Mouse  |
| Source:                       | Cell-free protein synthesis (CFPS)             |
| Protein Type:                 | Recombinant                                    |
| Purification tag / Conjugate: | This DISC1 protein is labelled with Strep Tag. |
| Application:                  | Western Blotting (WB), SDS-PAGE (SDS), ELISA   |

### Product Details

|           |  |
|-----------|--|
| Brand:    | AliCE®   |
| Sequence: | <p>MQGGGPRGAP IHSPSHGADS GHGLPPAVAP QRRRLTRRPG YMRSTAGSGI GFLSPAVGMP</p> <p>HPSSAGLTGQ QSQHSQSKAG QCGLDPGSHC QASLVGKPFL KSSLVPAVAS EGHLPAPQRS</p> <p>MRKRPVHFAV HSKNDSRQSE RLTGSFKPGD SGFWQELLSS DSFKSLAPSL DAPWNKGSRG</p> <p>LKTVKPLASP ALNGPADIAS LPGFQDTFTS SFSFIQLSLG AAGERGEAEG CLPSREAEP</p> <p>HQRPQEMAAE ASSSDRPHGD PRHLWTFSLH AAPGLADLAQ VTRSSSRQSE CGTVSSSSSD</p> <p>TGFSSQDASS AGGRGDQGGG WADAHGWHTL LREWEPMLQD YLLSNRRQLE VTSLILKLQK</p> <p>CQEKVVEDGD YDTAETLRQR LEELEQEKGR LSWALPSQQP ALRSFLGYLA AQIQVALHGA</p> <p>TQRAGSDDPE APLEGQLRTT AQDSLPAIT RRDWLIREKQ RLQKEIALQ ARMSALEAKE</p> <p>KRLSQELEEQ EVLLRWPGCD LMALVAQMSP GQLQEVSKAL GETLTSANQA PFQVEPPETL</p> <p>RSLRERTKSL NLAVRELTQA VCSGEKLCSS LRRRLSDLDL RLPALLEAKM LALSGSCFST</p> <p>AKELTEIWA LSSEREGLEM FLGRLLALSS RNSRRLGIVK EDHLRCRQDL ALQDAAHKTR</p> |

MKANTVKCME VLEGQLSSCR CPLLGVRWKA DLETCQLLMQ SLQLQEAGSS PHAEDEEQVH  
STGEAAQTAA LAVPRTPHPE EEKSPLQVLQ EWDTHSALSP HCAAGPWKED SHIVSAEVGE  
KCEAIGVKLL HLEDQLLGAM YSHDEALFQS LQGELQTVKE TLQAMILQLQ PTKEAGEASA  
SYPTAGAQET EA

**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.

## Product Details

|               |  |
|---------------|--|
| 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:           | DISC1   |
| Alternative Name: | Disc1 ( <a href="#">DISC1 Products</a> )  |
| Background:       | <p>Disrupted in schizophrenia 1 homolog,FUNCTION: Involved in the regulation of multiple aspects of embryonic and adult neurogenesis (PubMed:17825401, PubMed:19502360, PubMed:31444471). Required for neural progenitor proliferation in the ventricular/subventricular zone during embryonic brain development and in the adult dentate gyrus of the hippocampus (PubMed:17825401, PubMed:19502360). Participates in the Wnt-mediated neural progenitor proliferation as a positive regulator by modulating GSK3B activity and CTNNB1 abundance (PubMed:19303846). Plays a role as a modulator of the AKT-mTOR signaling pathway controlling the tempo of the process of newborn neurons integration during adult neurogenesis, including neuron positioning, dendritic development and synapse formation (PubMed:19778506). Inhibits the activation of AKT-mTOR signaling upon interaction with CCDC88A (PubMed:19778506). Regulates the migration of early-born granule cell precursors toward the dentate gyrus during the hippocampal development (PubMed:19502360). Inhibits ATF4 transcription factor activity in neurons by disrupting ATF4 dimerization and DNA-binding (PubMed:31444471). Plays a role, together with PCNT, in the microtubule network formation (By similarity). {ECO:0000250 UniProtKB:Q9NRI5, ECO:0000269 PubMed:17825401, ECO:0000269 PubMed:19303846, ECO:0000269 PubMed:19502360, ECO:0000269 PubMed:19778506, ECO:0000269 PubMed:31444471}.</p> |
| Molecular Weight: | 92.5 kDa  |
| UniProt:          | <a href="#">Q811T9</a>  |
| Pathways:         | <a href="#">Regulation of Cell Size</a>   |

## 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 |
|--------------------|--|

## Application Details

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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.

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