Datasheet for ABIN3088867

AMBRA1 Protein (AA 1-1298) (Strep Tag)

Go to Product page

1 Image

Overview

Quantity:	1 mg
Target:	AMBRA1
Protein Characteristics:	AA 1-1298
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This AMBRA1 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Sequence:	MKVVPEKNAV RILWGRERGA RAMGAQRLLQ ELVEDKTRWM KWEGKRVELP DSPRSTFLLA FSPDRTLLAS THVNHNIYIT EVKTGKCVHS LIGHRRTPWC VTFHPTISGL IASGCLDGEV RIWDLHGGSE SWFTDSNNAI ASLAFHPTAQ LLLIATANEI HFWDWSRREP FAVVKTASEM ERVRLVRFDP LGHYLLTAIV NPSNQQGDDE PEIPIDGTEL SHYRQRALLQ SQPVRRTPLL HNFLHMLSSR SSGIQVGEQS TVQDSATPSP PPPPPQPSTE RPRTSAYIRL RQRVSYPTAE CCQHLGILCL CSRCSGTRVP SLLPHQDSVP PASARATTPS FSFVQTEPFH PPEQASSTQQ DQGLLNRPSA FSTVQSSTAG NTLRNLSLGP TRRSLGGPLS SHPSRYHREI APGLTGSEWT RTVLSLNSRS EAESMPPPRT SASSVSLLSV LRQQEGGSQA SVYTSATEGR GFPASGLATE SDGGNGSSQN NSGSIRHELQ CDLRRFFLEY DRLQELDQSL SGEAPQTQQA QEMLNNNIES ERPGPSHQPT PHSSENNSNL SRGHLNRCRA CHNLLTFNND TLRWERTTPN YSSGEASSSW QVPSSFESVP SSGSQLPPLE RTEGQTPSSS RLELSSSASP QEERTVGVAF NQETGHWERI YTQSSRSGTV SQEALHQDMP EESSEEDSLR RRLLESSLIS LSRYDGAGSR EHPIYPDPAR

LSPAAYYAQR MIQYLSRRDS IRQRSMRYQQ NRLRSSTSSS SSDNQGPSVE GTDLEFEDFE DNGDRSRHRA PRNARMSAPS LGRFVPRRFL LPEYLPYAGI FHERGQPGLA THSSVNRVLA GAVIGDGQSA VASNIANTTY RLQWWDFTKF DLPEISNASV NVLVQNCKIY NDASCDISAD GQLLAAFIPS SQRGFPDEGI LAVYSLAPHN LGEMLYTKRF GPNAISVSLS PMGRYVMVGL ASRRILLHPS TEHMVAQVFR LQQAHGGETS MRRVFNVLYP MPADQRRHVS INSARWLPEP GLGLAYGTNK GDLVICRPEA LNSGVEYYWD QLNETVFTVH SNSRSSERPG TSRATWRTDR DMGLMNAIGL QPRNPATSVT SQGTQTLALQ LQNAETQTER EVPEPGTAAS GPGEGEGSEY GASGEDALSR IQRLMAEGGM TAVVQREQST TMASMGGFGN NIIVSHRIHR SSQTGTEPGA AHTSSPQPST SRGLLPEAGQ LAERGLSPRT ASWDQPGTPG REPTQPTLPS SSPVPIPVSL PSAEGPTLHC ELTNNNHLLD GGSSRGDAAG PRGEPRNR

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 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 produce something that functions like a cell, but without the constraints of a living system -

Product Details

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.

Purification:	Two step purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®): 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. 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.
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

Target:	AMBRA1
Alternative Name:	AMBRA1 (AMBRA1 Products)
Background:	Activating molecule in BECN1-regulated autophagy protein 1 (DDB1- and CUL4-associated factor 3),FUNCTION: Substrate-recognition component of a DCX (DDB1-CUL4-X-box) E3 ubiquitin-protein ligase complex involved in cell cycle control and autophagy (PubMed:20921139, PubMed:23524951, PubMed:24587252, PubMed:33854232, PubMed:33854235, PubMed:33854239, PubMed:32333458). The DCX(AMBRA1) complex specifically mediates the polyubiquitination of target proteins such as BECN1, CCND1, CCND2, CCND3, ELOC and ULK1 (PubMed:23524951, PubMed:33854232, PubMed:33854235, PubMed:33854239). Acts as an upstream master regulator of the transition from G1 to S cell phase: AMBRA1 specifically recognizes and binds phosphorylated cyclin-D (CCND1, CCND2 and CCND3), leading to cyclin-D ubiquitination by the DCX(AMBRA1) complex and subsequent degradation (PubMed:33854232, PubMed:33854235, PubMed:33854239). By controlling the

transition from G1 to S phase and cyclin-D degradation, AMBRA1 acts as a tumor suppressor that promotes genomic integrity during DNA replication and counteracts developmental abnormalities and tumor growth (PubMed:33854232, PubMed:33854235, PubMed:33854239). AMBRA1 also regulates the cell cycle by promoting MYC dephosphorylation and degradation independently of the DCX(AMBRA1) complex: acts via interaction with the catalytic subunit of protein phosphatase 2A (PPP2CA), which enhances interaction between PPP2CA and MYC, leading to MYC dephosphorylation and degradation (PubMed:25803737, PubMed:25438055). 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 (PubMed:25499913, PubMed:30166453). Acts as a key regulator of autophagy by modulating the BECN1-PIK3C3 complex: controls protein turnover during neuronal development, and regulates normal cell survival and proliferation (PubMed:21358617). In normal conditions, AMBRA1 is tethered to the cytoskeleton via interaction with dyneins DYNLL1 and DYNLL2 (PubMed:20921139). Upon autophagy induction, AMBRA1 is released from the cytoskeletal docking site to induce autophagosome nucleation by mediating ubiquitination of proteins involved in autophagy (PubMed:20921139). The DCX(AMBRA1) complex mediates 'Lys-63'-linked ubiquitination of BECN1, increasing the association between BECN1 and PIK3C3 to promote PIK3C3 activity (By similarity). In collaboration with TRAF6, AMBRA1 mediates 'Lys-63'-linked ubiquitination of ULK1 following autophagy induction, promoting ULK1 stability and kinase activity (PubMed:23524951). Also activates ULK1 via interaction with TRIM32: TRIM32 stimulates ULK1 through unanchored 'Lys-63'-linked polyubiquitin chains (PubMed:31123703). Also acts as an activator of mitophagy via interaction with PRKN and LC3 proteins (MAP1LC3A, MAP1LC3B or MAP1LC3C), possibly by bringing damaged mitochondria onto autophagosomes (PubMed:21753002, PubMed:25215947). Also activates mitophagy by acting as a cofactor for HUWE1, acts by promoting HUWE1-mediated ubiquitination of MFN2 (PubMed:30217973). AMBRA1 is also involved in regulatory T-cells (Treg) differentiation by promoting FOXO3 dephosphorylation independently of the DCX(AMBRA1) complex: acts via interaction with PPP2CA, which enhances interaction between PPP2CA and FOXO3, leading to FOXO3 dephosphorylation and stabilization (PubMed:30513302). May act as a regulator of intracellular trafficking, regulating the localization of active PTK2/FAK and SRC (By similarity). Also involved in transcription regulation by acting as a scaffold for protein complexes at chromatin (By similarity). {ECO:0000250|UniProtKB:A2AH22, ECO:0000269|PubMed:20921139, ECO:0000269|PubMed:21358617, ECO:0000269|PubMed:21753002, ECO:0000269|PubMed:23524951, ECO:0000269|PubMed:24587252, ECO:0000269|PubMed:25215947, ECO:0000269|PubMed:25438055, ECO:0000269|PubMed:25499913, ECO:0000269|PubMed:25803737,

Target Details

	ECO:0000269|PubMed:30166453, ECO:0000269|PubMed:30217973, ECO:0000269|PubMed:30513302, ECO:0000269|PubMed:31123703, ECO:0000269|PubMed:32333458, ECO:0000269|PubMed:33854232, ECO:0000269|PubMed:33854235, ECO:0000269|PubMed:33854239}.
Molecular Weight:	142.5 kDa
UniProt:	Q9C0C7
Pathways:	Autophagy

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. 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.

Handling

Expiry Date:	Unlimited (if stored properly)

Images

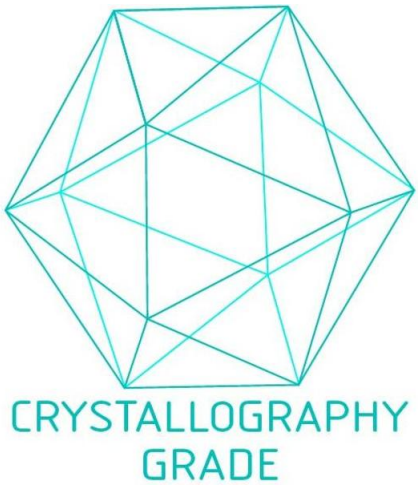

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process