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Datasheet for ABIN3092554

FBXL5 Protein (AA 1-691) (Strep Tag)

1 Image

Overview

Quantity:	1 mg
Target:	FBXL5
Protein Characteristics:	AA 1-691
Origin:	Human
Source:	Tobacco (<i>Nicotiana tabacum</i>)
Protein Type:	Recombinant
Purification tag / Conjugate:	This FBXL5 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence: MAPFP EEVDV FTAPHWRMKQ LVGLYCDKLS KTNFSNNNDF RALLQSLYAT FKEFKMHEQI
 ENEYIIGLLQ QRSQTIYNVH SDNKLSEMLS LFEKGLKNVK NEYEQLNYAK QLKERLEAFT
 RDFLPHMKEE EEVFQPLME YFTYEELKDI KKKVIAQHCS QKDTAELLRG LSLWNHAEER
 QKFFKYSVDE KSDKEAEVSE HSTGITHLPP EVMLSIFSYL NPQELCRCSQ VSMKWSQLTK
 TGSLWKHLYP VHWARGDWYS GPATELDTEP DDEWVKNRKD ESRAFHEWDE DADIDEESES
 AEESIAISIA QMEKRLLHGL IHNVLPPVGT SVKTLVLAYS SAVSSKMVRQ ILELCPNLEH
 LDLTQTDISD SAFDSWSWLG CCQSLRHLDL SGCEKITDVA LEKISRALGI LTSHQSGFLK
 TSTKITSTA WKNKDITMQS TKQYACLHDL TNKGIGEEID NEHPWTKPVS SENFTSPYVW
 MLDAEDLADI EDTVEWRHRN VESLCVMETA SNFSCSTSGC FSKDIVGLRT SVCWQQHCAS
 PAFAYCGHSF CCTGTALRTM SSLPESSAMC RKAARTRLPK GKDLIYFGSE KSDQETGRVL
 LFLSLSGCYQ ITDHGLRVLT LGGGLPYLEH LNLSGCLTIT GAGLQDLVSA CPSLNDEYFY
 YCDNINGPHA DTASGCQNLQ CGFRACCRSG E

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 - 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®):

Product Details

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: FBXL5

Alternative Name: FBXL5 ([FBXL5 Products](#))

Background: F-box/LRR-repeat protein 5 (F-box and leucine-rich repeat protein 5) (F-box protein FBL4/FBL5) (p45SKP2-like protein),FUNCTION: Component of some SCF (SKP1-cullin-F-box) protein ligase complex that plays a central role in iron homeostasis by promoting the ubiquitination and subsequent degradation of IREB2/IRP2 (PubMed:19762596, PubMed:19762597). The C-terminal domain of FBXL5 contains a redox-sensitive [2Fe-2S] cluster that, upon oxidation, promotes binding to IRP2 to effect its oxygen-dependent degradation (PubMed:32126207). Under iron deficiency conditions, the N-terminal hemerythrin-like (Hr) region, which contains a diiron metal center, cannot bind iron and undergoes conformational changes that destabilize the FBXL5 protein and cause its ubiquitination and degradation (PubMed:19762596, PubMed:19762597). When intracellular iron levels start rising, the Hr region is stabilized (PubMed:19762596, PubMed:19762597). Additional increases in iron levels facilitate the assembly and incorporation of a redox active [2Fe-2S] cluster in the C-terminal domain (PubMed:32126207). Only when oxygen level is high enough to maintain the cluster in its oxidized state can FBXL5 recruit IRP2 as a substrate for polyubiquitination and degradation (PubMed:32126207). Promotes ubiquitination and subsequent degradation of the dynactin complex component DCTN1 (PubMed:17532294). Within the nucleus, promotes the ubiquitination of SNAI1, preventing its interaction with DNA and promoting its degradation (PubMed:24157836). Negatively regulates DNA damage response by mediating the ubiquitin-proteasome degradation of the DNA repair protein NABP2 (PubMed:25249620). {ECO:0000269|PubMed:17532294, ECO:0000269|PubMed:19762596, ECO:0000269|PubMed:19762597, ECO:0000269|PubMed:32126207}.

Molecular Weight: 78.6 kDa

Target Details

UniProt:	Q9UKA1
Pathways:	Transition Metal Ion Homeostasis

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:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> 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.</p> <p>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!</p>
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.
Expiry Date:	Unlimited (if stored properly)



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