Datasheet for ABIN3094985

RENT1/UPF1 Protein (AA 1-1129) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	RENT1/UPF1 (UPF1)
Protein Characteristics:	AA 1-1129
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This RENT1/UPF1 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Brand:	AliCE®
Sequence:	MSVEAYGPSS QTLTFLDTEE AELLGADTQG SEFEFTDFTL PSQTQTPPGG PGGPGGGGAG GPGGAGAGAA AGQLDAQVGP EGILQNGAVD DSVAKTSQLL AELNFEEDEE DTYYTKDLPI HACSYCGIHD PACVVYCNTS KKWFCNGRGN TSGSHIVNHL VRAKCKEVTL HKDGPLGETV LECYNCGCRN VFLLGFIPAK ADSVVVLLCR QPCASQSSLK DINWDSSQWQ PLIQDRCFLS WLVKIPSEQE QLRARQITAQ QINKLEELWK ENPSATLEDL EKPGVDEEPQ HVLLRYEDAY QYQNIFGPLV KLEADYDKKL KESQTQDNIT VRWDLGLNKK RIAYFTLPKT DSGNEDLVII WLRDMRLMQG DEICLRYKGD LAPLWKGIGH VIKVPDNYGD EIAIELRSSV GAPVEVTHNF QVDFVWKSTS FDRMQSALKT FAVDETSVSG YIYHKLLGHE VEDVIIKCQL PKRFTAQGLP DLNHSQVYAV KTVLQRPLSL IQGPPGTGKT VTSATIVYHL ARQGNGPVLV CAPSNIAVDQ LTEKIHQTGL KVVRLCAKSR EAIDSPVSFL ALHNQIRNMD SMPELQKLQQ LKDETGELSS ADEKRYRALK RTAERELLMN ADVICCTCVG AGDPRLAKMQ FRSILIDEST QATEPECMVP

VVLGAKQLIL VGDHCQLGPV VMCKKAAKAG LSQSLFERLV VLGIRPIRLQ VQYRMHPALS AFPSNIFYEG SLQNGVTAAD RVKKGFDFQW PQPDKPMFFY VTQGQEEIAS SGTSYLNRTE AANVEKITTK LLKAGAKPDQ IGIITPYEGQ RSYLVQYMQF SGSLHTKLYQ EVEIASVDAF QGREKDFIIL SCVRANEHQG IGFLNDPRRL NVALTRARYG VIIVGNPKAL SKQPLWNHLL NYYKEQKVLV EGPLNNLRES LMQFSKPRKL VNTINPGARF MTTAMYDARE AIIPGSVYDR SSQGRPSSMY FQTHDQIGMI SAGPSHVAAM NIPIPFNLVM PPMPPPGYFG QANGPAAGRG TPKGKTGRGG RQKNRFGLPG PSQTNLPNSQ ASQDVASQPF SQGALTQGYI SMSQPSQMSQ PGLSQPELSQ DSYLGDEFKS QIDVALSQDS TYQGERAYQH GGVTGLSQY

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:

Product Details

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

Target Details

Target:	RENT1/UPF1 (UPF1)
Alternative Name:	UPF1 (UPF1 Products)
Background:	Regulator of nonsense transcripts 1 (EC 3.6.4.12) (EC 3.6.4.13) (ATP-dependent helicase RENT1) (Nonsense mRNA reducing factor 1) (NORF1) (Up-frameshift suppressor 1 homolog) (hUpf1),FUNCTION: RNA-dependent helicase required for nonsense-mediated decay (NMD) of aberrant mRNAs containing premature stop codons and modulates the expression level of normal mRNAs (PubMed:11163187, PubMed:16086026, PubMed:18172165, PubMed:21145460, PubMed:21419344, PubMed:24726324). Is recruited to mRNAs upon translation termination and undergoes a cycle of phosphorylation and dephosphorylation, its phosphorylation appears to be a key step in NMD (PubMed:11544179, PubMed:25220460). Recruited by release factors to stalled ribosomes together with the SMG1C protein kinase complex to form the transient SURF (SMG1-UPF1-eRF1-eRF3) complex (PubMed:19417104). In EJC-dependent NMD, the SURF complex associates with the exon junction complex (EJC) (located 50-55 or more nucleotides downstream from the termination codon) through UPF2 and allows the formation of an UPF1-UPF2-UPF3 surveillance complex which is believed to activate NMD (PubMed:21419344). Phosphorylated UPF1 is recognized by EST1B/SMG5, SMG6 and SMG7 which are thought to provide a link to the mRNA degradation machinery involving exonucleolytic and endonucleolytic pathways, and to serve as adapters to protein phosphatase 2A (PP2A), thereby triggering UPF1 dephosphorylation and allowing the recycling of NMD factors (PubMed:12554878). UPF1 can also activate NMD without UPF2 or UPF3, and in the absence of the NMD-enhancing downstream EJC indicative for alternative NMD pathways (PubMed:18447585). Plays a role in replication-dependent histone mRNA degradation at the end of phase S, the function is independent of UPF2 (PubMed:16086026, PubMed:18172165). For the recognition of premature termination codons (PTC) and initiation

Target Details

	of NMD a competitive interaction between UPF1 and PABPC1 with the ribosome-bound release factors is proposed (PubMed:18447585, PubMed:25220460). The ATPase activity of UPF1 is required for disassembly of mRNPs undergoing NMD (PubMed:21145460). Together with UPF2 and dependent on TDRD6, mediates the degradation of mRNA harboring long 3'UTR by inducing the NMD machinery (By similarity). Also capable of unwinding double-stranded DNA and translocating on single-stranded DNA (PubMed:30218034). {ECO:0000250|UniProtKB:Q9EPU0, ECO:0000269|PubMed:11163187, ECO:0000269|PubMed:11544179, ECO:0000269|PubMed:12554878, ECO:0000269|PubMed:16086026, ECO:0000269|PubMed:18172165, ECO:0000269|PubMed:18447585, ECO:0000269|PubMed:19417104, ECO:0000269|PubMed:21145460, ECO:0000269|PubMed:21419344, ECO:0000269|PubMed:24726324, ECO:0000269|PubMed:25220460, ECO:0000269|PubMed:30218034}.
Molecular Weight:	124.3 kDa
UniProt:	Q92900
Pathways:	SARS-CoV-2 Protein Interactome

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