Datasheet for ABIN3095870

TFEB Protein (AA 1-476) (Strep Tag)

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Overview

Quantity:	250 µg
Target:	TFEB
Protein Characteristics:	AA 1-476
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This TFEB protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Brand:	AliCE®
Sequence:	MASRIGLRMQ LMREQAQQEE QRERMQQQAV MHYMQQQQQQ QQQQLGGPPT PAINTPVHFQ SPPPVPGEVL KVQSYLENPT SYHLQQSQHQ KVREYLSETY GNKFAAHISP AQGSPKPPPA ASPGVRAGHV LSSSAGNSAP NSPMAMLHIG SNPERELDDV IDNIMRLDDV LGYINPEMQM PNTLPLSSSH LNVYSSDPQV TASLVGVTSS SCPADLTQKR ELTDAESRAL AKERQKKDNH NLIERRRRFN INDRIKELGM LIPKANDLDV RWNKGTILKA SVDYIRRMQK DLQKSRELEN HSRRLEMTNK QLWLRIQELE MQARVHGLPT TSPSGMNMAE LAQQVVKQEL PSEEGPGEAL MLGAEVPDPE PLPALPPQAP LPLPTQPPSP FHHLDFSHSL SFGGREDEGP PGYPEPLAPG HGSPFPSLSK KDLDLMLLDD SLLPLASDPL LSTMSPEASK ASSRRSSFSM EEGDVL **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.**

Product Details

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

Target Details

Target:	TFEB
Alternative Name:	TFEB (TFEB Products)
Background:	Transcription factor EB (Class E basic helix-loop-helix protein 35) (bHLHe35),FUNCTION: Transcription factor that acts as a master regulator of lysosomal biogenesis, autophagy, lysosomal exocytosis, lipid catabolism, energy metabolism and immune response (PubMed:21617040, PubMed:22576015, PubMed:22343943, PubMed:22692423, PubMed:25720963, PubMed:30120233, PubMed:31672913, PubMed:32612235, PubMed:32753672, PubMed:35662396, PubMed:36697823, PubMed:36749723, PubMed:37079666). Specifically recognizes and binds E-box sequences (5'-CANNTG-3'), efficient DNA-binding requires dimerization with itself or with another MiT/TFE family member such as TFE3 or MITF (PubMed:1748288, PubMed:19556463, PubMed:29146937). Involved in the cellular response to amino acid availability by acting downstream of MTOR: in the presence of nutrients, TFEB phosphorylation by MTOR promotes its cytosolic retention and subsequent inactivation (PubMed:21617040, PubMed:22576015, PubMed:22343943, PubMed:22692423, PubMed:25720963, PubMed:32612235, PubMed:32753672, PubMed:35662396, PubMed:36697823). Upon starvation or lysosomal stress, inhibition of MTOR induces TFEB dephosphorylation, resulting in nuclear localization and transcription factor activity (PubMed:22576015, PubMed:22343943, PubMed:22692423, PubMed:25720963, PubMed:32612235, PubMed:32753672, PubMed:35662396, PubMed:36697823). Specifically recognizes and binds the CLEAR-box sequence (5'-GTCACGTGAC-3') present in the regulatory region of many lysosomal genes, leading to activate their expression, thereby playing a central role in expression of lysosomal genes (PubMed:19556463, PubMed:22692423). Regulates lysosomal positioning in response to nutrient deprivation by promoting the expression of PIP4P1 (PubMed:29146937). Acts as a positive regulator of autophagy by promoting expression of genes involved in autophagy (PubMed:21617040, PubMed:22576015, PubMed:23434374, PubMed:27278822). In association with TFE3, activates the expression of CD40L in T-cells, thereby playing a role in T-cell-dependent antibody responses in activated CD4(+) T-cells and thymus-dependent humoral immunity (By similarity). Specifically recognizes the gamma-E3 box, a subset of E-boxes, present in the heavy-chain immunoglobulin enhancer (PubMed:2115126). Plays a role in the signal transduction processes required for normal vascularization of the placenta (By similarity). Involved in the immune response to infection by the bacteria S.aureus, S.typhimurium or S.enterica: infection promotes itaconate production, leading to alkylation, resulting in nuclear localization and transcription factor activity (PubMed:35662396). Itaconate-mediated alkylation activates TFEB-dependent lysosomal biogenesis, facilitating the bacteria clearance during the antibacterial innate immune response

Target Details

	(PubMed:35662396). In association with ACSS2, promotes the expression of genes involved in lysosome biogenesis and both autophagy upon glucose deprivation (PubMed:28552616). {ECO:0000250|UniProtKB:Q9R210, ECO:0000269|PubMed:1748288, ECO:0000269|PubMed:19556463, ECO:0000269|PubMed:2115126, ECO:0000269|PubMed:21617040, ECO:0000269|PubMed:22343943, ECO:0000269|PubMed:22576015, ECO:0000269|PubMed:22692423, ECO:0000269|PubMed:23434374, ECO:0000269|PubMed:25720963, ECO:0000269|PubMed:27278822, ECO:0000269|PubMed:28552616, ECO:0000269|PubMed:29146937, ECO:0000269|PubMed:30120233, ECO:0000269|PubMed:31672913, ECO:0000269|PubMed:32612235, ECO:0000269|PubMed:32753672, ECO:0000269|PubMed:35662396, ECO:0000269|PubMed:36697823, ECO:0000269|PubMed:36749723, ECO:0000269|PubMed:37079666}.
Molecular Weight:	52.9 kDa
UniProt:	P19484

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