Datasheet for ABIN3135570

TFE3 Protein (AA 1-572) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	TFE3
Protein Characteristics:	AA 1-572
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This TFE3 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), ELISA, SDS-PAGE (SDS)

Product Details

Sequence:	MSHAAEPARD AVEASAEGPR AVFLLLEERR PAESAQLLSL NSLLPESGIV ADIELENILD PDSFYELKSQ PLFLRSSLPI SLQATPTTPA TLSASSSAGG SRTPAMSSSS SRVLLRQQLM RAQAQEQERR ERREQAAAAP FPSPAPASPA ISVIGVSAGG HTLSRPPPAQ VPREVLKVQT HLENPTRYHL QQARRQQVKQ YLSTTLGPKL ASQALTPPPG PSSAQPLPAP ETAHATGPTG SAPNSPMALL TIGSSSEKEI DDVIDEIISL ESSYNDEMLS YLPGGTAGLQ LPSTLPVSGN LLDVYSSQGV ATPAITVSNS CPAELPNIKR EISETEAKAL LKERQKKDNH NLIERRRRFN INDRIKELGT LIPKSNDPEM RWNKGTILKA SVDYIRKLQK EQQRSKDLES RQRSLEQANR SLQLRIQELE LQAQIHGLPV PPNPGLLSLT TSSVSDSLKP EQLDIEEEGR PSTTFHVSGG PAQNAPPQQP PAPPSDALLD LHFPSDHLGD LGDPFHLGLE DILMEEEGMV GGLSGGALSP LRAASDPLLS SVSPAVSKAS SRRSSFSMEE ES **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®):

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.

Product Details

	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)

Target Details

Target:	TFE3
Alternative Name:	Tfe3 (TFE3 Products)
Background:	Transcription factor E3 (mTFE3),FUNCTION: Transcription factor that acts as a master regulator of lysosomal biogenesis and immune response (PubMed:16936731, PubMed:29146937). 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 TFEB or MITF (PubMed:16936731). Involved in the cellular response to amino acid availability by acting downstream of MTOR: in the presence of nutrients, TFE3 phosphorylation by MTOR promotes its inactivation (PubMed:27913603). Upon starvation or lysosomal stress, inhibition of MTOR induces TFE3 dephosphorylation, resulting in transcription factor activity (PubMed:27913603). 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 (By similarity). Maintains the pluripotent state of embryonic stem cells by promoting the expression of genes such as ESRRB, mTOR-dependent TFE3 cytosolic retention and inactivation promotes exit from pluripotency (PubMed:23582324). Required to maintain the naive pluripotent state of hematopoietic stem cell, mTOR-dependent cytoplasmic retention of TFE3 promotes the exit of hematopoietic stem cell from pluripotency (By similarity). TFE3 activity is also involved in the inhibition of neuronal progenitor differentiation (PubMed:30595499). Acts as a positive regulator of browning of adipose tissue by promoting expression of target genes, mTOR-dependent phosphorylation promotes cytoplasmic retention of TFE3 and inhibits browning of adipose tissue (PubMed:27913603). In association with TFEB, 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 (PubMed:16936731). Specifically recognizes the MUE3 box, a subset of E-boxes, present in the immunoglobulin enhancer (By similarity). It also binds very well to a USF/MLTF site (By similarity). Promotes TGF-beta-induced transcription of COL1A2, via its interaction with TSC22D1 at E-boxes in the gene

Target Details

	proximal promoter (PubMed:20713358). May regulate lysosomal positioning in response to nutrient deprivation by promoting the expression of PIP4P1 (PubMed:29146937). {ECO:0000250|UniProtKB:P19532, ECO:0000269|PubMed:16936731, ECO:0000269|PubMed:20713358, ECO:0000269|PubMed:23582324, ECO:0000269|PubMed:27913603, ECO:0000269|PubMed:29146937, ECO:0000269|PubMed:30595499}.
Molecular Weight:	61.5 kDa
UniProt:	Q64092

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)

