Datasheet for ABIN3122718

TBX2 Protein (AA 1-711) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	TBX2
Protein Characteristics:	AA 1-711
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This TBX2 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MREPALAASA MAYHPFHAPR PADFPMSAFL AAAQPSFFPA LALPPGALGK PLPDPGLAGA AAAAAAAAAA AEAGLHVSAL GPHPPAAHLR SLKSLEPEDE VEDDPKVTLE AKELWDQFHK LGTEMVITKS GRRMFPPFKV RVSGLDKKAK YILLMDIVAA DDCRYKFHNS RWMVAGKADP EMPKRMYIHP DSPATGEQWM AKPVAFHKLK LTNNISDKHG FTILNSMHKY QPRFHIVRAN DILKLPYSTF RTYVFPETDF IAVTAYQNDK ITQLKIDNNP FAKGFRDTGN GRREKRKQLT LPTLRLYEEH CKPERDGAES DASSCDPPPA REPPPSPSAA PSPLRLHRAR AEEKPGAADS DPEPERTGEE RSAAPLGRSP SRDASPARLT EPERSRERRS PERCSKEPTE GGGDGPFSLR SLEKERPEAR RKDEGRKDVG EGKEPSLAPL VVQTDSASPL GAGHLPGLAF SSHLHGQQFF GPLGAGQPLF LHPGQFAMGP GAFSAMGMGH LLASVAGGSG SSGGAGPGTA AGLDAGGLGP AASAASTAAP FPFHLSQHML ASQGIPMPTF GGLFPYPYTY MAAAAAAASA LPATSAAAAA AAAAGSLSRS PFLGSARPRL RFSPYQIPVT IPPSTSLLTT GLAAEGSKGG NSREPSPLPE LALRKVGGPS RGALSPSGSA KEAASELQSI QRLVSGLESQ RALSPGRESP K

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)

Target Details

Target:	TBX2
Alternative Name:	Tbx2 (TBX2 Products)
Background:	T-box transcription factor TBX2 (T-box protein 2),FUNCTION: Transcription factor which acts as a transcriptional repressor (PubMed:22186728, PubMed:11867218, PubMed:18025091, PubMed:12023302). May also function as a transcriptional activator (PubMed:26486273, PubMed:22186728, PubMed:11867218). Binds to the palindromic T site 5'-TTCACACCTAGGTGTGAA-3' DNA sequence, or a half-site, which are present in the regulatory region of several genes (PubMed:9710594, PubMed:26971330, PubMed:12023302, PubMed:33731112, PubMed:27720610). Required for cardiac atrioventricular canal formation (PubMed:15459098). May cooperate with NKX2.5 to negatively modulate expression of NPPA/ANF in the atrioventricular canal (PubMed:12023302). May play a role as a positive regulator of TGFB2 expression, perhaps acting in concert with GATA4 in the developing outflow tract myocardium (PubMed:22186728). Plays a role in limb pattern formation (PubMed:15459098). Acts as a transcriptional repressor of ADAM10 gene expression, perhaps in concert with histone deacetylase HDAC1 as cofactor (PubMed:30599067). Involved in branching morphogenesis in both developing lungs and adult mammary glands, via negative modulation of target genes, acting redundantly with TBX3 (PubMed:27720610, PubMed:16222716). Required, together with TBX3, to maintain cell proliferation in the embryonic lung mesenchyme, perhaps acting downstream of SHH, BMP and TGFbeta signaling (PubMed:27720610). Involved in modulating early inner ear development, acting independently of, and also redundantly with TBX3, in different subregions of the developing ear (PubMed:33795231). Acts as a negative regulator of PML function in cellular senescence (By similarity). Acts as a negative regulator of expression of CDKN1A/p21, IL33 and CCN4, repression of CDKN1A is enhanced in response to UV-induced stress, perhaps as a result of phosphorylation by p38 MAPK (PubMed:18025091, PubMed:33731112). Negatively modulates

Target Details

	expression of CDKN2A/p19ARF and CDH1/E-cadherin (By similarity). Plays a role in induction of the epithelial-mesenchymal transition (EMT) (By similarity). Plays a role in melanocyte proliferation, perhaps via regulation of cyclin CCND1 (PubMed:26486273). Involved in melanogenesis, acting via negative modulation of expression of DHICA oxidase/TYRP1 and P protein/OCA2 (PubMed:26971330, PubMed:9710594). Involved in regulating retinal pigment epithelium (RPE) cell proliferation, perhaps via negatively modulating transcription of the transcription factor CEBPD (PubMed:28910203). {ECO:0000250|UniProtKB:Q13207, ECO:0000269|PubMed:11867218, ECO:0000269|PubMed:12023302, ECO:0000269|PubMed:15459098, ECO:0000269|PubMed:16222716, ECO:0000269|PubMed:18025091, ECO:0000269|PubMed:22186728, ECO:0000269|PubMed:26486273, ECO:0000269|PubMed:26971330, ECO:0000269|PubMed:27720610, ECO:0000269|PubMed:28910203, ECO:0000269|PubMed:30599067, ECO:0000269|PubMed:33731112, ECO:0000269|PubMed:33795231, ECO:0000269|PubMed:9710594}.
Molecular Weight:	75.1 kDa
UniProt:	Q60707
Pathways:	p53 Signaling

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.
Expiry Date:	Unlimited (if stored properly)