Datasheet for ABIN3120972

SMAD1 Protein (AA 1-465) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	SMAD1
Protein Characteristics:	AA 1-465
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This SMAD1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MNVTSLFSFT SPAVKRLLGW KQGDEEEKWA EKAVDALVKK LKKKKGAMEE LEKALSCPGQ PSNCVTIPRS LDGRLQVSHR KGLPHVIYCR VWRWPDLQSH HELKPLECCE FPFGSKQKEV CINPYHYKRV ESPVLPPVLV PRHSEYNPQH SLLAQFRNLG QNEPHMPLNA TFPDSFQQPN SHPFPHSPNS SYPNSPGGSS STYPHSPTSS DPGSPFQMPA DTPPPAYLPP EDPMAQDGSQ PMDTNMMAPP LPAEISRGDV QAVAYEEPKH WCSIVYYELN NRVGEAFHAS STSVLVDGFT DPSNNKNRFC LGLLSNVNRN STIENTRRHI GKGVHLYYVG GEVYAECLSD SSIFVQSRNC NYHHGFHPTT VCKIPSGCSL KIFNNQEFAQ LLAQSVNHGF ETVYELTKMC TIRMSFVKGW GAEYHRQDVT STPCWIEIHL HGPLQWLDKV LTQMGSPHNP ISSVS **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. 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.

Product Details

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:	SMAD1
Alternative Name:	Smad1 (SMAD1 Products)
Background:	Mothers against decapentaplegic homolog 1 (MAD homolog 1) (Mothers against DPP homolog 1) (Dwarfin-A) (Dwf-A) (Mothers-against-DPP-related 1) (Mad-related protein 1) (mMad1) (SMAD family member 1) (SMAD 1) (Smad1),FUNCTION: Transcriptional modulator that plays a role in various cellular processes, including embryonic development, cell differentiation, and tissue homeostasis (PubMed:11566864, PubMed:15329343, PubMed:21420501, PubMed:35594155). Upon BMP ligand binding to their receptors at the cell surface, is phosphorylated by activated type I BMP receptors (BMPRIs) and associates with SMAD4 to form an heteromeric complex which translocates into the nucleus acting as transcription factor. In turn, the hetero-trimeric complex recognizes cis-regulatory elements containing Smad Binding Elements (SBEs) to modulate the outcome of the signaling network. SMAD1/OAZ1/PSMB4 complex mediates the degradation of the CREBBP/EP300 repressor SNIP1 (By similarity). Positively regulates BMP4-induced expression of odontogenic development regulator MSX1 following IPO7-mediated nuclear import (PubMed:34995814). {ECO:0000250|UniProtKB:Q15797, ECO:0000269|PubMed:11566864, ECO:0000269|PubMed:15329343, ECO:0000269|PubMed:21420501, ECO:0000269|PubMed:34995814, ECO:0000269|PubMed:35594155}.
Molecular Weight:	52.2 kDa
UniProt:	P70340
Pathways:	Stem Cell Maintenance, Regulation of Muscle Cell Differentiation, Skeletal Muscle Fiber Development

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

Application Details

	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)

