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Datasheet for ABIN3095441
SMAD7 Protein (AA 1-426) (Strep Tag)

Overview

Quantity:	1 mg
Target:	SMAD7
Protein Characteristics:	AA 1-426
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This SMAD7 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence: MFRTKRSALV RRLWRSRAPG GEDEEEGAGG GGGGGELRGE GATDSRAHGA GGGGPGRAGC
CLGKAVRGAK GHHHPHPAA GAGAAGGAEA DLKALTHSVL KKLKERQLEL LLQAVESRGG
TRTACLLLPG RLDCRLGPGA PAGAQAQPP SSYSLPLLLC KVFRWPDLRH SSEVKRLCCC
ESYGKINPEL VCCNPHLSR LCELESPPPP YSRYPMDFLK PTADCPDAVP SSAETGGTNY
LAPGGLSDSQ LLEPGDRSH WCVWAYWEEK TRVGRLYCVQ EPSLDIFYDL PQGNGFCLGQ
LNSDNKSQLV QKVRKIGCG IQLTREVDGV WVYNRSSYPI FIKSATLDNP DSRTLLVHKV
FPGFSIKAFD YEKAYSLQRP NDHEFMQQPW TGFTVQISFV KGWGQCYTRQ FISSPCWLE
VIFNSR

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: SMAD7

Alternative Name: SMAD7 ([SMAD7 Products](#))

Background: Mothers against decapentaplegic homolog 7 (MAD homolog 7) (Mothers against DPP homolog 7) (Mothers against decapentaplegic homolog 8) (MAD homolog 8) (Mothers against DPP homolog 8) (SMAD family member 7) (SMAD 7) (Smad7) (hSMAD7),FUNCTION: Antagonist of signaling by TGF-beta (transforming growth factor) type 1 receptor superfamily members, has been shown to inhibit TGF-beta (Transforming growth factor) and activin signaling by associating with their receptors thus preventing SMAD2 access (PubMed:21791611). Functions as an adapter to recruit SMURF2 to the TGF-beta receptor complex. Also acts by recruiting the PPP1R15A-PP1 complex to TGFBR1, which promotes its dephosphorylation. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator. {ECO:0000269|PubMed:11163210, ECO:0000269|PubMed:12023024, ECO:0000269|PubMed:14718519, ECO:0000269|PubMed:17327236, ECO:0000269|PubMed:21791611, ECO:0000269|PubMed:9892009}.

Molecular Weight: 46.4 kDa

UniProt: [O15105](#)

Pathways: [Interferon-gamma Pathway](#), [Cell-Cell Junction Organization](#)

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.

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Application Details

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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)