

Datasheet for ABIN3134713 SMAD4 Protein (AA 1-551) (His tag)



[Go to Product page](#)

1 Image

Overview

Quantity:	1 mg
Target:	SMAD4
Protein Characteristics:	AA 1-551
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This SMAD4 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence: MDNMSITNTP TSNDACLSIV HSLMCHRQGG ESETFAKRAI ESLVKKLKEK KDELDSLITA
 ITTNGAHP SK CVTIQRTLDG RLQVAGRKG F PHVIYARLWR WPD LHKNELK HVKYCQYAFD
 LKCD SVCVNP YHYERVVSPG IDLSGLTLQS NAP SMLVKDE YVHDFEGQPS LPTEGHSIQ T
 IQHPPSNRAS TETYSAPALL APAESNATST TNFPNIPVAS TSQPASILAG SHSEGLLQIA
 SGPQPGQQQN GFTAQPATYH HNSTTTWTGS RTAPYTPNLP HHQNGHLQHH PMPHPHGHY
 WPVHNELAFQ PPISNHPAPE YWCSIA YFEM DVQVGETFKV PSSCPVVTVD GYVDPSSGGDR
 FCLGQLSNVH RTEAIERARL HIGKGVQLEC KEGEDVWVRC LSDHAVFVQS YYLDREAGRA
 PGDAVHKIYP SAYIKVFDLR QCHRQMQQQA ATAQAAAAAQ AA AVAGNIPG PG SVGGIAPA
 ISLSAAAGIG VDDLRLCIL RMSFVKGWGP DYPRQSIKET PCWIEIHLHR ALQLLDEV LH
 TMPIADPQPL D

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

Product Details

- Characteristics:
- Made in Germany - from design to production - by highly experienced protein experts.
 - Mouse Smad4 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
 - 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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

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.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

- Purification:
- Two step purification of proteins expressed in baculovirus infected SF9 insect cells:
1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. 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: >95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Sterility: 0.22 µm filtered

Endotoxin Level: Protein is endotoxin free.

Grade: Crystallography grade

Target Details

Target:	SMAD4
Alternative Name:	Smad4 (SMAD4 Products)
Background:	<p>Common SMAD (co-SMAD) is the coactivator and mediator of signal transduction by TGF-beta (transforming growth factor). Component of the heterotrimeric SMAD2/SMAD3-SMAD4 complex that forms in the nucleus and is required for the TGF-mediated signaling. Promotes binding of the SMAD2/SMAD4/FAST-1 complex to DNA and provides an activation function required for SMAD1 or SMAD2 to stimulate transcription. Component of the multimeric SMAD3/SMAD4/JUN/FOS complex which forms at the AP1 promoter site, required for synergistic transcriptional activity in response to TGF-beta. May act as a tumor suppressor. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator (By similarity). Acts synergistically with SMAD1 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene expression (PubMed:15329343). Binds to SMAD binding elements (SBEs) (5'-GTCT/AGAC-3') within BMP response element (BMPRE) of cardiac activating regions (PubMed:15329343). In muscle physiology, plays a central role in the balance between atrophy and hypertrophy. When recruited by MSTN, promotes atrophy response via phosphorylated SMAD2/4. MSTN decrease causes SMAD4 release and subsequent recruitment by the BMP pathway to promote hypertrophy via phosphorylated SMAD1/5/8. {ECO:0000250, ECO:0000269 PubMed:15329343, ECO:0000269 PubMed:24076600}.</p>
Molecular Weight:	61.3 kDa Including tag.
UniProt:	P97471
Pathways:	Cell Division Cycle , Chromatin Binding , Autophagy

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:	Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process