

Recombinant Human Smad3 protein ab151882

[1 References](#) [画像数 1](#)

製品の詳細

製品名 Recombinant Human Smad3 protein

精製度 > 80 % Densitometry.

発現系 Escherichia coli

アクセッション番号 **P84022**

タンパク質長 Full length protein

Animal free No

由来 Recombinant

生物種 Human

配列

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MSSILPFTPIVKRLLGWKKGEQNGQEEKWCEKAVKSLVKKL
KKTGQLDE LEKAITTQNV
NTKCITIPRSLDGRLLQVSHRKGLPHVIYCRLWRWPDH
SHHELAMELCEFAFNMKKDEV
CVNPYHYQRVETPVLPPVLVPRHTEI
PAEFPLDDYSHSIPENTNFPAGIEPQSNIPETP
PPGYLSEGETSDH
QMNHSM DAGSPNLS PNPMS PAHNNLDLQPVTYCEPAFWCSIS
YYELNQRV
GETFHASQPSMTVDGFTDPSNSERFCLGLLSNVNRNAAVELT
RRHIGRGV
RLYYIGGEVFAECLSDSAIFVQSPNCNQRYGWHPATVCKIPP
GCNLKIFN
NQEFAALLAQSVNQGF EAVYQLTRMCTIRMSFVKGWGAEYRR
QTVTSTPC WIELHLNGPLQWLDKVLTMGSPSIRCSSVS
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予測される分子量 77 kDa including tags

領域 1 to 425

タグ GST tag N-Terminus

特性

Our **Abpromise guarantee** covers the use of **ab151882** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

アプリケーション	Western blot
製品の状態	Liquid
備考	ab64311 (Myelin Basic Protein protein) can be utilized as a substrate for assessing kinase activity
前処理および保存	
保存方法および安定性	Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles. pH: 7.50 Constituents: 0.002% PMSF, 0.004% DTT, 0.79% Tris HCl, 25% Glycerol (glycerin, glycerine), 0.88% Sodium chloride
関連情報	
機能	Receptor-regulated SMAD (R-SMAD) that is an intracellular signal transducer and transcriptional modulator activated by TGF-beta (transforming growth factor) and activin type 1 receptor kinases. Binds the TRE element in the promoter region of many genes that are regulated by TGF-beta and, on formation of the SMAD3/SMAD4 complex, activates transcription. Also can form a SMAD3/SMAD4/JUN/FOS complex at the AP-1/SMAD site to regulate TGF-beta-mediated transcription. Has an inhibitory effect on wound healing probably by modulating both growth and migration of primary keratinocytes and by altering the TGF-mediated chemotaxis of monocytes. This effect on wound healing appears to be hormone-sensitive. Regulator of chondrogenesis and osteogenesis and inhibits early healing of bone fractures. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator.
関連疾患	Colorectal cancer Loeys-Dietz syndrome 3
配列類似性	Belongs to the dwarfin/SMAD family. Contains 1 MH1 (MAD homology 1) domain. Contains 1 MH2 (MAD homology 2) domain.
ドメイン	The MH1 domain is required for DNA binding. Also binds zinc ions which are necessary for the DNA binding. The MH2 domain is required for both homomeric and heteromeric interactions and for transcriptional regulation. Sufficient for nuclear import. The linker region is required for the TGFbeta-mediated transcriptional activity and acts synergistically with the MH2 domain.
翻訳後修飾	Phosphorylated on serine and threonine residues. Enhanced phosphorylation in the linker region on Thr-179, Ser-204 and Ser-208 on EGF and TGF-beta treatment. Ser-208 is the main site of MAPK-mediated phosphorylation. CDK-mediated phosphorylation occurs in a cell-cycle dependent manner and inhibits both the transcriptional activity and antiproliferative functions of SMAD3. This phosphorylation is inhibited by flavopiridol. Maximum phosphorylation at the G(1)/S junction. Also phosphorylated on serine residues in the C-terminal SXS motif by TGFBR1 and ACVR1. TGFBR1-mediated phosphorylation at these C-terminal sites is required for interaction with SMAD4, nuclear location and transactivational activity, and appears to be a prerequisite for the TGF-beta mediated phosphorylation in the linker region. Dephosphorylated in the C-terminal SXS motif by PPM1A. This dephosphorylation disrupts the interaction with SMAD4, promotes nuclear export and terminates TGF-beta-mediated signaling. Phosphorylation at Ser-418 by

CSNK1G2/CK1 promotes ligand-dependent ubiquitination and subsequent proteasome degradation, thus inhibiting SMAD3-mediated TGF-beta responses. Phosphorylated by PDPK1. Acetylation in the nucleus by EP300 in the MH2 domain regulates positively its transcriptional activity and is enhanced by TGF-beta.

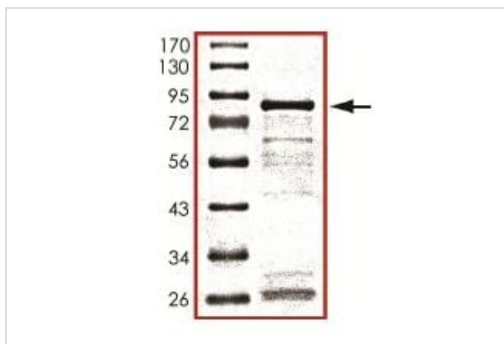
Ubiquitinated. Monoubiquitinated, leading to prevent DNA-binding. Deubiquitination by USP15 alleviates inhibition and promotes activation of TGF-beta target genes.

Poly-ADP-ribosylated by PARP1 and PARP2. ADP-ribosylation negatively regulates SMAD3 transcriptional responses during the course of TGF-beta signaling.

細胞内局在

Cytoplasm. Nucleus. Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4 (PubMed:15799969). Through the action of the phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1 (PubMed:16751101, PubMed:19289081). Co-localizes with LEMD3 at the nucleus inner membrane (PubMed:15601644). MAPK-mediated phosphorylation appears to have no effect on nuclear import (PubMed:19218245). PDPK1 prevents its nuclear translocation in response to TGF-beta (PubMed:17327236).

画像



SDS-PAGE analysis of ab151882 which was determined to be >80% pure by densitometry.

SDS-PAGE - Recombinant Human Smad3 protein
(ab151882)

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