

Recombinant Human Smad2 protein ab134841

Description	
Product name	Recombinant Human Smad2 protein
Purity	> 90 % SDS-PAGE. ab134841 was expressed in E. coli as inclusion bodies, refolded, chromatographically purified and sterile-filtered.
Expression system	Escherichia coli
Accession	<u>Q15796</u>
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MASMTGGQQMGRGHHHHHHGNLYFQGGEFSSILPFTPPV VKRLLGWKKSA GGSGGAGGGEQNGQEEKWCEKAVKSLVKKLKKTGRLD ELEKAITTQNCNT KCVTIPSTCSEIWGLSTPNTIDQWDTTGLYSFSEQTRSLDG RLQVSHRKG LPHVIYCRLWRWPDHLHSHHELKAIENCEYAFNLKKDEVCV NPYHYQRVET PVLPPVLVPRHTEILTELPLDDYTHSIPENTNFPAGIEPQS NYIPETPP PGYISEDGETSDQQLNQSMDTGSPAELSPTTLSPVNHSL DLQPVTYSEPA FWCSIAYYELNQRVGETFHASQPSLTVDGFTDPSNSERF CLGLLSNVNRN ATVEMTRRHIGRGVRLYYIGGEVFAECLSDSAIFVQSPNCN QRYGWHPAT VCKIPPGCNLKIFNNQEFAALLAQSVNQGF EAVYQLTRMC TIRMSFVKGW GAEYRRQTVTSTPCWIELHLNGPLQWLDKVLQMGSPSV RCSSMS
Predicted molecular weight	55 kDa including tags
Amino acids	2 to 467
Tags	His-T7 tag N-Terminus

Specifications

Our **Abpromise guarantee** covers the use of **ab134841** in the following tested applications.

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

Applications SDS-PAGE

Form Liquid

Preparation and Storage

Stability and Storage Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
pH: 8.00
Constituent: 0.32% Tris HCl

Buffer also contains a proprietary formulation of NaCl, KCl, EDTA, Arginine, DTT and Glycerol.

General Info

Function 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 SMAD2/SMAD4 complex, activates transcription. May act as a tumor suppressor in colorectal carcinoma.

Tissue specificity Expressed at high levels in skeletal muscle, heart and placenta.

Sequence similarities Belongs to the dwarfin/SMAD family.
Contains 1 MH1 (MAD homology 1) domain.
Contains 1 MH2 (MAD homology 2) domain.

Post-translational modifications Phosphorylated on one or several of Thr-220, Ser-245, Ser-250, and Ser-255. In response to TGF-beta, phosphorylated on Ser-465/467 by TGF-beta and activin type 1 receptor kinases. Able to interact with SMURF2 when phosphorylated on Ser-465/467, recruiting other proteins, such as SNON, for degradation. In response to decorin, the naturally occurring inhibitor of TGF-beta signaling, phosphorylated on Ser-240 by CaMK2. Phosphorylated by MAPK3 upon EGF stimulation; which increases transcriptional activity and stability, and is blocked by calmodulin. In response to TGF-beta, ubiquitinated by NEDD4L; which promotes its degradation. Acetylated on Lys-19 by coactivators in response to TGF-beta signaling, which increases transcriptional activity. Isoform short: Acetylation increases DNA binding activity in vitro and enhances its association with target promoters in vivo. Acetylation in the nucleus by EP300 is enhanced by TGF-beta.

Cellular localization Cytoplasm. Nucleus. Cytoplasmic and nuclear in the absence of TGF-beta. On TGF-beta stimulation, migrates to the nucleus when complexed with SMAD4. On dephosphorylation by phosphatase PPM1A, released from the SMAD2/SMAD4 complex, and exported out of the nucleus by interaction with RANBP1.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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