

Recombinant Human SMAD2, His-tagged

Cat. No. SMAD2-30446TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant full length Human Smad2 with N terminal His tag, 54.4 kDa.
Species	Human
Source	E.coli
Description	The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the Drosophila gene mothers against decapentaplegic (Mad) and the C. elegans gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signal of the transforming growth factor (TGF)-beta, and thus regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation. This protein is recruited to the TGF-beta receptors through its interaction with the SMAD anchor for receptor activation (SARA) protein. In response to TGF-beta signal, this protein is phosphorylated by the TGF-beta receptors. The phosphorylation induces the dissociation of this protein with SARA and the association with the family member SMAD4. The association with SMAD4 is important for the translocation of this protein into the nucleus, where it binds to target promoters and forms a transcription repressor complex with other cofactors. This protein can also be phosphorylated by activin type 1 receptor kinase, and mediates the signal from the activin. Alternatively spliced transcript variants encoding the same protein have been observed.
Conjugation	HIS

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Tissue specificity	Expressed at high levels in skeletal muscle, heart and placenta.
Form	Liquid
Purity	>95% by SDS-PAGE
Storage buffer	Preservative: None Constituents: 20mM Tris HCl, 100mM Sodium chloride, pH 8.0
Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Sequences of amino acids	MGSSHHHHHH SSGLVPRGSH MSSILPFTPP VVKRLLGWKK SAGGSGGAGG GEQNGQEEKW CEKAVKSLVK KLKKTGRLE LEKAITTQNC NTKCVTIPSTCSEIWGLSTP NTIDQWDTTG LYSFSEQTRS LDGRLQVSHR KGLPHVIYCR LWRWPDHSH HELKAIENCE YAFNLKKDEV CVNPYHYQRV ETPVLPPVLVPRHTEILTEL PPLDDYTHSI PENTNFPAGI EPQSNYIPET PPPGYISEDG ETSDQQLNQS MDTGSPAELS PTTLSPVNHS LDLQPVTYSE PAFWCSIAYYELNQRVGETF HASQPSLTVD GFTDPSNSER FCLGLLSNVN RNATVEMTRR HIGRGVRLYY IGGEVFAECL SDSAIFVQSP NCNQRYGWHP ATVCKIPPGCNLKIFNNQEF AALLAQSVNQ GFEAVYQLTR MCTIRMSFVK GWGAEYRRQT VTSTPCWIEL HLNGPLQWLD KVLTMGSPS VRCSSMS
Sequence Similarities	Belongs to the dwarfin/SMAD family. Contains 1 MH1 (MAD homology 1) domain. Contains 1 MH2 (MAD homology 2) domain.
Full Length	Full L.
GENE INFORMATION	
Gene Name	SMAD2 SMAD family member 2 [Homo sapiens]

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Official Symbol	SMAD2
Synonyms	SMAD2; SMAD family member 2; MAD, mothers against decapentaplegic homolog 2 (Drosophila) , MADH2, SMAD, mothers against DPP homolog 2 (Drosophila); mothers against decapentaplegic homolog 2; JV18 1; MADR2;
Gene ID	4087
mRNA Refseq	NM_001003652
Protein Refseq	NP_001003652
MIM	601366
Uniprot ID	Q15796
Chromosome Location	18q21
Pathway	Adherens junction, organism-specific biosystem; Adherens junction, conserved biosystem; Alpha6-Beta4 Integrin Signaling Pathway, organism-specific biosystem; Cell cycle, organism-specific biosystem; Cell cycle, conserved biosystem;
Function	contributes_to DNA binding; I-SMAD binding; R-SMAD binding; SMAD binding; activating transcription factor binding;