

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

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<b>Official Symbol</b>	SMAD2
<b>Synonyms</b>	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;
<b>Gene ID</b>	4087
<b>mRNA Refseq</b>	NM_001003652
<b>Protein Refseq</b>	NP_001003652
<b>MIM</b>	601366
<b>Uniprot ID</b>	Q15796
<b>Chromosome Location</b>	18q21
<b>Pathway</b>	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;
<b>Function</b>	contributes_to DNA binding; I-SMAD binding; R-SMAD binding; SMAD binding; activating transcription factor binding;

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