

## Product datasheet for PH304604

### SMAD2 (NM\_005901) Human Mass Spec Standard

#### Product data:

Product Type:	Mass Spec Standards
Description:	SMAD2 MS Standard C13 and N15-labeled recombinant protein (NP_005892)
Species:	Human
Expression Host:	HEK293
Expression cDNA Clone or AA Sequence:	RC204604
Predicted MW:	52.1 kDa
Protein Sequence:	>RC204604 representing NM_005901 Red=Cloning site Green=Tags(s)

MSSILPFTPPVVKRLLGWKKSAGGSGGAGGGEQNGQEEKWCEKAVKSLVKKLKKTGRLDELEKAITTQNC  
NTKCVTIPSTCSEIWGLSTPNTIDQWDTTGLYSFSEQTRSLDGRLQVSHRKLPHVIYCRLWRPDLHSH  
HELKAIENCEYAFNLKKDEVCPNYPHYQRVETPVLPPVLVPRHTEILTELPPLDDYTHSIPENTNFPAGI  
EPQSNYIPETPPPGYISEDGETSDQQLNQSMGTGSPAELSPPTLSPVNHSLDLQPVTYSEPAFWCSIAYY  
ELNQRVGETFHASQPSLTVDFGTDPSNSERFCLGLLSNVNRNATVEMTRRHIGRGVRLYYIGGEVFAECL  
SDSAIFVQSPNCNQRYGWHPATVCKIPPGCNLKI FNNQEF AALLAQSVNQGF EAVYQLTRMCTIRMSFVK  
GWGAEYRRQTVTSTPCWIELHLNGPLQWLDKVL TQMGSPSVRCSSMS

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Tag:	C-Myc/DDK
Purity:	> 80% as determined by SDS-PAGE and Coomassie blue staining
Concentration:	>0.05 µg/µL as determined by microplate BCA method
Labeling Method:	Labeled with [U- <sup>13</sup> C <sub>6</sub> , <sup>15</sup> N <sub>4</sub> ]-L-Arginine and [U- <sup>13</sup> C <sub>6</sub> , <sup>15</sup> N <sub>2</sub> ]-L-Lysine
Buffer:	25 mM Tris-HCl, 100 mM glycine, pH 7.3
Storage:	Store at -80°C. Avoid repeated freeze-thaw cycles.
Stability:	Stable for 3 months from receipt of products under proper storage and handling conditions.
RefSeq:	<u>NP_005892</u>
RefSeq Size:	5415
RefSeq ORF:	1401
Synonyms:	hMAD-2; hSMAD2; JV18; JV18-1; MADH2; MADR2



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Locus ID: 4087

UniProt ID: [Q15796](#), [Q53XR6](#)

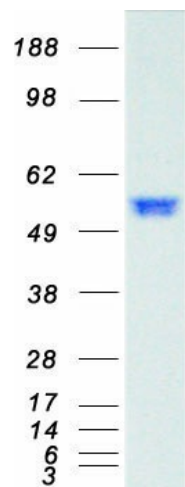
Cytogenetics: 18q21.1

**Summary:** 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 have been observed for this gene. [provided by RefSeq, May 2012]

**Protein Families:** Cancer stem cells, Druggable Genome, Embryonic stem cells, ES Cell Differentiation/IPS, Stem cell relevant signaling - JAK/STAT signaling pathway, Stem cell relevant signaling - TGFb/BMP signaling pathway, Transcription Factors

**Protein Pathways:** Adherens junction, Cell cycle, Colorectal cancer, Pancreatic cancer, Pathways in cancer, TGF-beta signaling pathway, Wnt signaling pathway

### Product images:



Coomassie blue staining of purified SMAD2 protein (Cat# [TP304604]). The protein was produced from HEK293T cells transfected with SMAD2 cDNA clone (Cat# [RC204604]) using MegaTran 2.0 (Cat# [TT210002]).