

Product datasheet for **RC206526**

SMAD2 (NM_001003652) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	SMAD2 (NM_001003652) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SMAD2
Synonyms:	hMAD-2; hSMAD2; JV18; JV18-1; MADH2; MADR2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>RC206526 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTCGTCACCTCTTGCCATTCACGCCGCCAGTTGTGAAGAGACTGCTGGGATGGAAGAAGTCAGCTGGT
 GGTCTGGAGGAGCAGGCCGAGGAGAGCAGAATGGCGAGGAAGAAAAGTGGTGTGAGAAAAGCAGTGAAAAG
 TCTGGTGAAGAAGCTAAAGAAAACAGGACGATTAGATGAGCTTGAGAAAAGCCATCACCACTCAAAAAGT
 AATACTAAATGTGTACCATACCAAGCACTTGCTCTGAAATTTGGGGACTGAGTACACCAAAATACGATAG
 ATCAGTGGGATACAACAGGCCTTACAGCTTCTCTGAACAAACCAGGCTCTTGTATGGTCGCTCCAGGT
 ATCCCATCGAAAAGGATTGCCACATGTTATATTTGCCGATTATGGCGCTGGCCTGATCTTCACAGTCAT
 CATGAACTCAAGGCAATTGAAAAGTGGCAATATGCTTTTAACTCTAAAAAGGATGAAGTATGTGTAACCC
 CTTACCACTATCAGAGAGTTGAGACACCAGTTTTGCCTCCAGTATTAGTGCCCGACACACCGAGATCCT
 AACAGAAGCTCCGCTCTGGATGACTATACTCACTCCATTCCAGAAAACACTAATTCCACGAGGAATT
 GAGCCACAGAGTAATTATATTCCAGAAAACGCCACTCCTGGATATATCAGTGAAGATGGAGAAAACAAGT
 ACCAACAGTTGAATCAAAGTATGGACACAGGCTCTCCAGCAGAATATCTCCTACTACTTTCCCTCTGT
 TAATCATAGCTTGGATTTACAGCCAGTTACTTACTCAGAACCTGCATTTTGGTGTTCGATAGCATATTAT
 GAATTAATCAGAGGGTTGGAGAAACCTTCCATGCATCACAGCCCTCACTCACTGTAGATGGCTTTACAG
 ACCCATCAAATCAGAGAGGTTCTGCTTAGGTTACTCTCCAATGTTAACCGAAATGCCACGGTAGAAAT
 GACAAGAAGGCATATAGGAAGAGGAGTGCCTTACTACATAGTGAGGGAAGTTTTTGTGAGTGCCTA
 AGTGATAGTGAATCTTTGTGCAGAGCCCAATGTAATCAGAGATATGGCTGGCACCCTGCAACAGTGT
 GTAAAATCCACCAGGCTGTAATCTGAAGATCTTCAACAACAGGAATTTGCTGCTCTTCTGGCTCAGTC
 TGTTAATCAGGGTTTTGAAGCCGTCTATCAGCTAACTAGAATGTGACCATAAGAATGAGTTTTGTGAAA
 GGGTGGGAGCAGAATACCGAAGGCAGACGGTAACAAGTACTCCTTGCTGGATTGAACCTCATCTGAATG
 GACCTCTACAGTGGTTGGACAAAGTATTAAGTCAAGTGGGATCCCTTCAAGTGGTGTCTCAAGCATGTC
 A

ACGCGTACGCGGCCGCTCGAGCAGAAAACATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>RC206526 protein sequence
 Red=Cloning site Green=Tags(s)

MSSILPFTPPVVKRLLGWKKSSAGSGGAGGGEQNGQEEKWCEKAVKSLVKLKKTRLDELEKAITTQNC
 NTKCVTIPTSCSEIWGLSTPNTIDQWDTTGLYSFSEQTRSLDGRLQVSHRKLPHVIYCRWRWPDLSH
 HELKAIENCEYAFNLKKDEVCVNPHYQVETPVLPPVLVPRHTEILTEPLDDYTHSIPENTNFPAGI
 EPQSNYIPETPPPGYISEDGETSDQLNQSMGTGSPAELSPPTLSPVNHSLDLQPVTYSEPAFWCSIAYY
 ELNQRVGETFHASQPSLTVDFGTDPSNSERFCLGLLSNVNRNATVEMTRRHIGRGVRLYYIGGEVFAECL
 SDSAIFVQSPNCNQRYPATVCKIPPGCNLKFNNQEFALLAQSVNQGFVAVYQLTRMCTIRMSFVK
 GWGAERYRQVTSTPCWIELHLNGLQWLDKVLQMGSPSVRCSSMS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms:

https://cdn.origene.com/chromatograms/mk6197_a07.zip

Restriction Sites:

SgfI-MluI

Cloning Scheme:


ACCN: NM_001003652

ORF Size: 1401 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

RefSeq: [NM_001003652.4](#)

RefSeq Size: 10551 bp

RefSeq ORF: 1404 bp

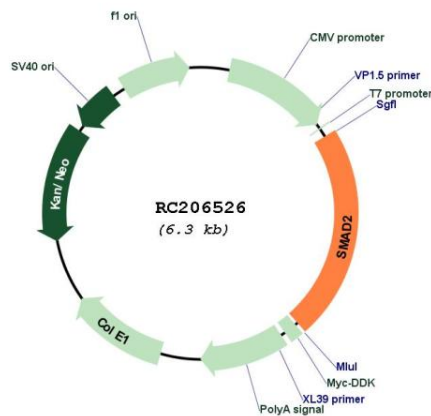
Locus ID: 4087

UniProt ID: [Q15796](#)

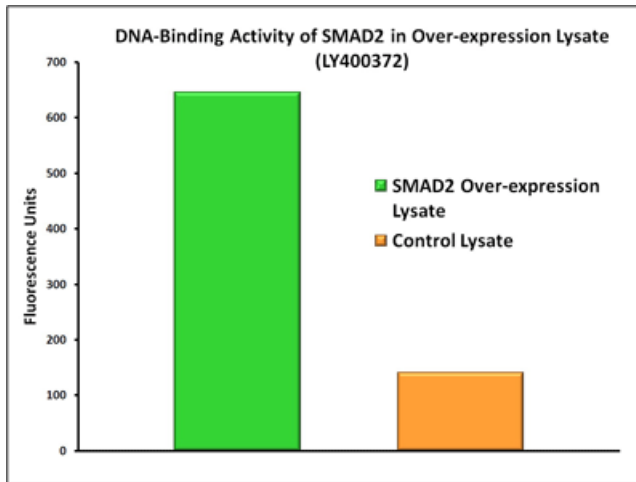
Cytogenetics: 18q21.1

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
MW:	52.3 kDa
Gene 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]

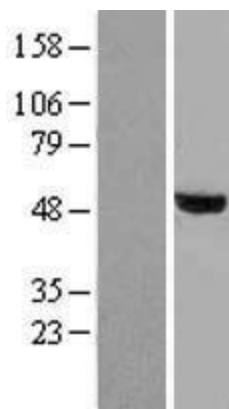
Product images:



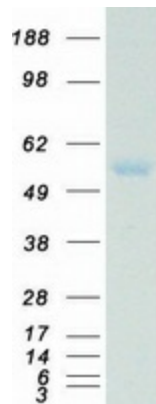
Circular map for RC206526



DNA-binding activity of SMAD2 was measured in OriGene over-expression lysate [LY400372] and a control lysate. Three microliters of each lysate was tested with a transcription factor binding assay utilizing SMAD2-specific DNA sequences. The high level of activity observed in the over-expression lysate compared to the control lysate demonstrates that the expressed SMAD2 is biologically active in the lysate. Overexpression cell lysates are prepared from HEK293T cells transfected with RC206526 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Western blot validation of overexpression lysate (Cat# [LY400372]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC206526 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SMAD2 protein (Cat# [TP306526]). The protein was produced from HEK293T cells transfected with SMAD2 cDNA clone (Cat# RC206526) using MegaTran 2.0 (Cat# [TT210002]).