

## Product datasheet for **RC200299**

### **SMAD1 (NM\_001003688) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	SMAD1 (NM_001003688) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	SMAD1
Synonyms:	BSP-1; BSP1; JV4-1; JV41; MADH1; MADR1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>RC200299 ORF sequence  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGAATGTGACAAGTTTATTTTCCTTTACAAGTCCAGCTGTGAAGAGACTTCTTGGGTGGAAACAGGGCG  
 ATGAAGAAGAAAAATGGGCAGAGAAAGCTGTTGATGCTTTGGTGAAAAAACTGAAGAAAAAGAAAGGTGC  
 CATGGAGGAAGTGGAAAAGCCCTTGAGCTGCCAGGGCAACCGAGTAAGTGTGTACCATTCCCCCGCTCT  
 CTGGATGGCAGGCTGCAAGTCTCCACCGGAAGGGACTGCCTCATGTCTTTACTGCCGTGTGTGGCGCT  
 GGCCCGATCTTCAGAGCCACCATGAAGTAAAACCACTGGAATGCTGTGAGTTTCTTTTGGTTCCAAGCA  
 GAAGGAGGTCTGCATCAATCCCTACCCTATAAGAGAGTAGAAAGCCCTGTACTTCTCTGTGTGCTGTT  
 CCAAGACACAGCGAATATAATCCTCAGCACAGCCTTTAGCTCAGTTCGGTAAGTACTGACAAAATGAGC  
 CTCACATGCCACTCAACGCCACTTTTCCAGATTCTTTCCAGCAACCCAACAGCCACCCGTTTCTCACTC  
 TCCAATAGCAGTACCCAAACTCTCTGGGAGCAGCAGCAGCACCTACCCTCACTCTCCACCAGCTCA  
 GACCCAGGAAGCCCTTTCCAGATGCCAGCTGATACGCCCCACCTGCTTACCTGCCTCTGAAGACCCCA  
 TGACCCAGGATGGCTCTCAGCCGATGGACACAAACATGATGGCGCCTCCCTGCCCTCAGAAATCAACAG  
 AGGAGATGTTCAGGCGGTTGCTTATGAGGAACCAAAACTGGTGTCTATTGTCTACTATGAGCTCAAC  
 AATCGTGTGGGTGAAGCGTTCATGCCTCCTCCACAAGTGTGTTGGTGGATGGTTTCACTGATCCTTCCA  
 ACAATAAGAACCCTTTCTGCCTTGGGCTGCTCTCAATGTTAACCAGAAATCCACTATTGAAAACACCAG  
 GCGGCATATTGAAAAGGAGTTCATCTTTATATGTTGGAGGGGAGGTGTATGCCGAATGCCTTAGTGAC  
 AGTAGCATCTTTGTGCAAAGTCGGAAGTCAACTACCATCATGGATTTTCACTACTGTTTGAAGA  
 TCCCTAGTGGGTGTAGTCTGAAAATTTTAAACAACCAAGAATTTGCTCAGTTATTGGCACAGCTCTGTGAA  
 CCATGGATTTGAGACAGTCTATGAGCTTACAAAATGTGTACTATACGTATGAGCTTTGTGAAGGGCTGG  
 GGAGCAGAATACCACCGCCAGGATGTTACTAGCACCCCTGCTGGATTGAGATACATCTGCACGGCCCC  
 TCCAGTGGCTGGATAAAGTCTTACTCAATGGGTTACCTCATAATCTATTTCATCTGTATCT

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>RC200299 protein sequence  
 Red=Cloning site Green=Tags(s)

MNVTSLFSFTSPAVKRLLGWKQGDEEEKWAEKAVDALVKLKKKKGAMEELEKALSCPGQPSNCVTIPRS  
 LDGRLQVSHRGLPHVIYCRVWRWPDLSHHELKPLECCEFPFGSKQKEVCINPYHYKRVEPVLPVVLV  
 PRHSEYNPQHSLLAQFRNLGQNEPHMPLNATFPDSFQPNSHPPHSPNSSYPNSPGSSSSTYPHSPTSS  
 DPGSPFQMPADTPPPAYLPPEDPMTQDGSQPMNTNMMAPPLPSEINRGDVQAVAYEEPKHWCISIVVYELN  
 NRVGEAFHASSTSVLVDGFTDPSNNKNRFCLGLLSNVNRNSTIENTRRHIGKGVHLYYVGGEVYAECLSD  
 SSIFVQSRNCNYHHGFHPTTVCKIPSGCSLKFNNQEFQLLAQSVNHGFETVYELTKMCTIRMSFVKGW  
 GAEYHRQDVTSTPCWIEIHLHGPLQWLDKVLQMGSPHNPISVS

**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mk6393\\_a05.zip](https://cdn.origene.com/chromatograms/mk6393_a05.zip)

**Restriction Sites:**

Sgfl-Mlul

**Cloning Scheme:**


**ACCN:** NM\_001003688

**ORF Size:** 1395 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.

**Note:** Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

**RefSeq:** [NM\\_001003688.1](#), [NP\\_001003688.1](#)

**RefSeq Size:** 2880 bp

**RefSeq ORF:** 1398 bp

**Locus ID:** 4086

**UniProt ID:** [Q15797](#)

**Cytogenetics:** 4q31.21

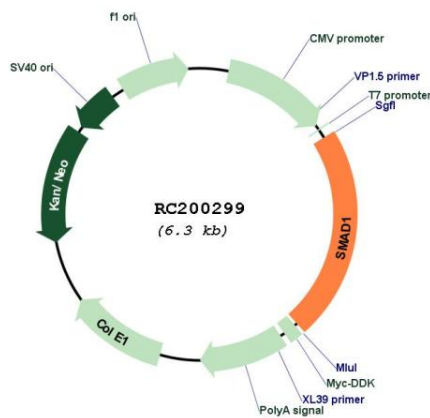
**Protein Families:** Cancer stem cells, Druggable Genome, ES Cell Differentiation/IPS, Stem cell relevant signaling - JAK/STAT signaling pathway, Stem cell relevant signaling - TGFb/BMP signaling pathway, Transcription Factors

**Protein Pathways:** TGF-beta signaling pathway

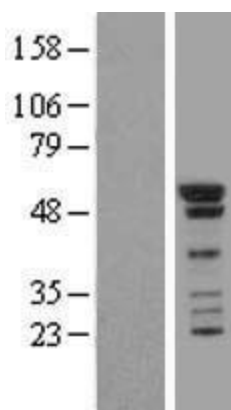
**MW:** 52.3 kDa

**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 signals of the bone morphogenetic proteins (BMPs), which are involved in a range of biological activities including cell growth, apoptosis, morphogenesis, development and immune responses. In response to BMP ligands, this protein can be phosphorylated and activated by the BMP receptor kinase. The phosphorylated form of this protein forms a complex with SMAD4, which is important for its function in the transcription regulation. This protein is a target for SMAD-specific E3 ubiquitin ligases, such as SMURF1 and SMURF2, and undergoes ubiquitination and proteasome-mediated degradation. Alternatively spliced transcript variants encoding the same protein have been observed. [provided by RefSeq, Jul 2008]

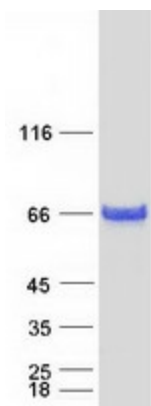
**Product images:**



Circular map for RC200299



Western blot validation of overexpression lysate (Cat# [LY424106]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC200299 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified SMAD1 protein (Cat# [TP300299]). The protein was produced from HEK293T cells transfected with SMAD1 cDNA clone (Cat# RC200299) using MegaTran 2.0 (Cat# [TT210002]).