

## Product datasheet for **SC116771**

### **SMAD4 (NM\_005359) Human Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	SMAD4 (NM_005359) Human Untagged Clone
Tag:	Tag Free
Symbol:	SMAD4
Synonyms:	DPC4; JIP; MADH4; MYHRS
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Cell Selection:	None



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**Fully Sequenced ORF:** >OriGene ORF within SC116771 sequence for NM\_005359 edited (data generated by NextGen Sequencing)

```
ATGGACAATATGTCTATTACGAATACACCAACAAGTAATGATGCCTGTCTGAGCATTGTG
CATAGTTTGATGTGCCATAGACAAGGTGGAGAGAGTGAACATTTGCAAAAAGAGCAATT
GAAAGTTTGGTAAAGAAGCTGAAGGAGAAAAAGATGAATTGGATTCTTTAATAACAGCT
ATAACTACAAATGGAGCTCATCCTAGTAAATGTGTTACCATACAGAGAACATTGGATGG
AGGCTTCAGGTGGCTGGTCGGAAGGATTTCTCATGTGATCTATGCCCGTCTCTGGAGG
TGGCCTGATCTTACAAAAATGAACTAAAACATGTTAAATATTGTCAGTATGCGTTTGAC
TTAAATGTGATAGTGTCTGTGTGAATCCATATCACTACGAACGAGTTGTATCACCTGGA
ATTGATCTCTCAGGATTAACACTGCAGAGTAATGCTCCATCAAGTATGATGGTGAAGGAT
GAATATGTGCATGACTTTGAGGGACAGCCATCGTTGTCCACTGAAGGACATTCAATTCAA
ACCATCCAGCATCCACCAAGTAATCGTGCATCGACAGAGACATACAGCACCCAGCTCTG
TTAGCCCCATCTGAGTCTAATGCTACCAGCACTGCCAATTTCCCAACATTCCTGTGGCT
TCCACAAGTCAGCCTGCCAGTATACTGGGGGGCAGCCATAGTGAAGGACTGTTGCAGATA
GCATCAGGGCCTCAGCCAGGACAGCAGCAGAATGGATTTACTGGTCAGCCAGCTACTTAC
CATCATAACAGCACTACCACCTGGACTGGAAGTAGGACTGCACCATACACACCTAATTTG
CCTCACCAACAAAACGGCCATCTTCAGCACCCACCCGCTATGCCGCCCATCCCGGACAT
TACTGGCCTGTTCAATGAGCTTGCAATCCAGCCTCCCATTTCCAATCATCCTGCTCCT
GAGTATTGGTGTTCATTGCTTACTTTGAAATGGATGTTGAGGTAGGAGAGACATTTAAG
GTTCTTCAAGCTGCCATTTGTTACTGTTGATGGATACGTGGACCCTTCTGGAGGAGAT
CGCTTTTGTGGGTCAACTCTCCAATGTCCACAGGACAGAAGCCATTGAGAGAGCAAGG
TTGCACATAGGCAAAAGGTGTGCAGTTGGAATGTAAGGTGAAGGTGATGTTTGGTCCAGG
TGCTTAGTGACCACGCGGTCTTTGTACAGAGTTACTACTTAGACAGAGAAGCTGGGCGC
GCACCTGGAGATGCTGTTACATAAGATCTACCCAAGTGCATATATAAAGGTCTTTGATTTG
CGTCAGTGTATCGACAGATGCAGCAGCAGGCGGCTACTGCACAAGCTGCAGCAGCTGCC
CAGGCAGCAGCCGTGGCAGGAAACATCCCTGGCCAGGATCAGTAGGTGGAATAGCTCCA
GCTATCAGTCTGTGAGCTGCTGGAATTGGTGTGATGACCTTCGTCGCTTATGCATA
CTCAGGATGAGTTTTGTAAAGGCTGGGACCGGATTACCCAAGACAGAGCATCAAAGAA
ACACCTTGCTGGATTGAAATCACTTACACCGGGCCCTCCAGCTCCTAGACGAAGTACTT
CATACCATGCCGATTGCAGACCCACAACCTTTAGACTGA
```

Clone variation with respect to NM\_005359.5

**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM\_005359 unedited

```
GTTTCGATTTGTATACGACTCCTATAGGCGGCCCGCAATCGGCACGAGGCCTCGTGCCG
AATTCGGCAGGAGGGCTCTCCGGGCCCGGGNGAAAGCTACGGGCCCGGTGCGTCCGCG
GACCAGCAGCGCGGGAGAGCGGACTCCCCTCGCCACCGCCGAGCCAGGTTATCCTGAA
TACATGTCTAACAAATTTCTTGCAACGTTAGCTGTTGTTTTTCACTGTTTCCAAAGGAT
CAAAATGCTTTCAGAAATGGAGACATATTTGATTTAAAAGGAAAACTGAACAATGG
ACAATATGTCTATTACGAATACACCAACAAGTAATGATGCCTGTCTGAGCATTGTGCATA
GTTTGATGTGCCATAGACAAGGTGGAGAGAGTGAACATTTGCAAAAAGAGCAATTGAAA
GTTTGGTAAAGAAGCTGAAGGAGAAAAAGATGAATTGGATTCTTTAATAACAGCTATAA
CTACAAATGGAGCTCATCCTAGTAAATGTGTTACCATACAGAGAACATTGGATGGGAGGC
TTCAGGTGGCTGGTCGGAAGGATTTCTCATGTGATCTATGCCCGTCTCTGGAGGTGGC
CTGATCTTCAAAAAATGAACTAAAACATGTTAAATATTGTCAGTATGCGTTTGACTTAN
AATGTGATAGTGTCTGTGTGAATCCATATCACTACGAACGAGTTGTATCACCTGGAANTG
ATCTCTCAGGATTAACACTGCAGAGTAATGCTCCCATCAGTATGATGGTGAAGGATGAAT
ATGTGCATGACTTTGAGGGACAGCCCATCGTTGTCCACTGAGGGACATCANTNCANACCT
CCAGCATCCACCCAGTATCGTGCATCGACAGAGACATACAGCACCCAGCTCTGTTAGCC
CCATCTGAGTCTAATGCCTACAGCACTGGCCACTTT
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<b>3' Read Nucleotide Sequence:</b>	>OriGene 3' read for NM_005359 unedited ATGGCCGCGCCGCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTATGTTGAGATTCAG TTTTATTTATGCTACCAGCTAGGTAAAAAGCATACATATTGTGTCTGTGGTACAGTCAAT ACATCTGCAACTTTTCTACTTAAATTCTCTATACAAAGTCACTGCCAATTGATATGATCA TTGATGGCAAAGGGCTTAGAATAACCAAAAGATATAAAAAAGTTGCAGTCTTGCCCAA GATACAAAACTGAATTTTAAACAATATCATAACATACATGATTTAAACATTATACCAAA AAAAGTCACATCAAATCAAGTACAAAAATATCCAACTACCTATTATGAACTGTAATGTT TCCATTATTCTGCACAGTATTTAACATAGAATTTAGCAGTTTCCAAAATATTCAGTTTAT TCATTATTTAGTTTAAGCATTGCCACCTTTGCAGAACAGTGAGACATTAGGTAGAGTGAC GCTGCTTTTAGTGTTTTAAAAATACAAAACCTTTCCCTATGAATGAAGGAAAAGAAATT CCTCTTATAGGCTTCTTAGCAACCAACCTTGTGCCTAGAAATACAGAAGAATACAACCTAC TGTTTAAACAGGGGAAAAGTATACTTCATCAACAGTCATCCACTAGGAATAACAAACGTAA TTTTAAATNTTTTGTCTGGTAATTNTAAGGGATTCTCAATATACACACAGATTAAGAGT TTTTTGCCTTGGNCAAAATAAACTGAAGTTGCAAGACAATCTGAATTGAAACCATCTTCA CTAATATAACTTGCAAAAATATTTTATGAAAGATTACATACATTATTAACCTACTTTT TAAACACAGAGTAAAGTTACTCTTTGGTAAAATNAACTNACCCACATGGCACATTATTTT TGAAGTATGNTC
<b>Restriction Sites:</b>	NotI-NotI
<b>ACCN:</b>	NM_005359
<b>Insert Size:</b>	3570 bp
<b>OTI Disclaimer:</b>	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
<b>RefSeq:</b>	<a href="#">NM_005359.3</a> , <a href="#">NP_005350.1</a>
<b>RefSeq Size:</b>	3220 bp
<b>RefSeq ORF:</b>	1659 bp
<b>Locus ID:</b>	4089
<b>UniProt ID:</b>	<a href="#">Q13485</a> , <a href="#">A0A024R274</a>
<b>Domains:</b>	DWB, DWA, MH1
<b>Protein Families:</b>	Druggable Genome, Transcription Factors
<b>Protein Pathways:</b>	Adherens junction, Cell cycle, Chronic myeloid leukemia, Colorectal cancer, Pancreatic cancer, Pathways in cancer, TGF-beta signaling pathway, Wnt signaling pathway

**Gene Summary:**

This gene encodes a member of the Smad family of signal transduction proteins. Smad proteins are phosphorylated and activated by transmembrane serine-threonine receptor kinases in response to transforming growth factor (TGF)-beta signaling. The product of this gene forms homomeric complexes and heteromeric complexes with other activated Smad proteins, which then accumulate in the nucleus and regulate the transcription of target genes. This protein binds to DNA and recognizes an 8-bp palindromic sequence (GTCTAGAC) called the Smad-binding element (SBE). The protein acts as a tumor suppressor and inhibits epithelial cell proliferation. It may also have an inhibitory effect on tumors by reducing angiogenesis and increasing blood vessel hyperpermeability. The encoded protein is a crucial component of the bone morphogenetic protein signaling pathway. The Smad proteins are subject to complex regulation by post-translational modifications. Mutations or deletions in this gene have been shown to result in pancreatic cancer, juvenile polyposis syndrome, and hereditary hemorrhagic telangiectasia syndrome. [provided by RefSeq, Aug 2017]