

## Product datasheet for **MC218774**

### **Smad4 (NM\_008540) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Smad4 (NM_008540) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Smad4
Synonyms:	AW743858; D18Wsu70e; DPC4; Madh4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**Fully Sequenced ORF:** >NCBI ORF sequence for NM\_008540, the custom clone sequence may differ by one or more nucleotides

```
ATGGACAATATGTCTATAACAAATACACCAACAAGTAACGATGCCTGTCTGAGCATTGTACATAGTTTGA
TGTGTCATAGACAAGGTGGGAAAGTAAACCTTTGCAAAAAGAGCAATTGAGAGTTTGGTAAAGAAGCT
GAAAGAGAAAAAAGATGAATTGGATTCTTTAATAACAGCTATAACTACAAATGGAGCTCATCTAGCAAG
TGTGTCACCATACAGAGAACATTGGATGGACGACTTCAGGTGGCTGGTCGGAAAGGATTTCTCATGTGA
TCTATGCCCGTCTGTGGAGGTGGCCTGATCTACACAAGAATGAACTAAAGCATGTTAAATATTGTGAGTA
TGCGTTTTGACTTAAAATGTGACAGTGTCTGTGTGAATCCATATCACTATGAGCGGTTGTCTCACCTGGA
ATTGATCTCTCAGGATTAACACTGCAGAGTAATGCTCCAAGTATGTTAGTGAAGGATGAGTACGTTACAG
ACTTTGAAGGACAGCCGCTCTTACCCACTGAAGGACATTCGATTCAAACCATCCAACACCCGCCAAGTAA
TCGCGCATCAACGGAGACGTACAGCGCCCCGGCTCTGTTAGCCCCGGCAGAGTCTAACGCCACCAGCACC
ACCAACTTCCCCAACATTCTGTGGCTTCCACAAGTCAGCCGGCCAGTATTCTGGCGGGCAGCCATAGTG
AAGGACTGTTGCAGATAGCTTCAGGGCCTCAGCCAGGACAGCAGAGAATGGATTTACTGCTCAGCCAGC
TACTTACCATCATAACAGCACTACCACCTGGACTGGAAGTAGGACTGCACCATACACACCTAATTTGCCT
CACCACAAAACGGCCATCTTCAGCACCACCCGCCTATGCCGCCCATCCTGGACATTACTGGCCAGTTC
ACAATGAGCTTGCAATCCAGCCTCCCATTTCCAATCATCTGCTCCTGAGTACTGGTGTCCATTGCTTA
CTTTGAAATGGACGTTCCAGGTAGGAGAGACGTTTAAAGTCCCTTCAAGCTGCCCTGTTGTGACTGTGGAT
GGCTATGTGGATCCTTCGGGAGGAGATCGCTTTTGCTTGGGTCAACTCTCCAATGTCCACAGGACAGAAG
CGATTGAGAGAGCGAGGTTGCACATAGGCAAAGGAGTGCAGTTGGAATGTAAGGTGAAGGTGACGTTTG
GGTCAGGTGCCTTAGTGACCACGCGTCTTTGTACAGAGTTACTACCTGGACAGAGAAGCTGGCCGAGCA
CCTGGCGAGCTGTTTATAAGATCTACCAAGCGCGTATATAAAGTCTTTGATCTGCGGAGTGTCCACC
GGCAGATGCAGCAACAGGCGGCCACTGCCAAGCTGCAGCTGCTGCTCAGGCGGCGCCGTGGCAGGGAA
CATCCCTGGCCCTGGGTCCGTGGGTGGAATAGCTCCAGCCATCAGTCTGTCTGCTGCTGCTGGCATCGGT
GTGGATGACCTCCGGCGATTGTGCATTCTCAGGATGAGCTTTGTGAAGGCTGGGGCCAGACTACCCCA
GGCAGAGCATCAAGGAAACCCCGTGTGGATTGAGATTACCTTCACCGAGCTCTGCAGCTCTTGGATGA
AGTCTGCACACCATGCCATTGCGGACCCACAGCCTTTAGACTGA
```

**Chromatograms:** [https://cdn.origene.com/chromatograms/ja2003\\_c02.zip](https://cdn.origene.com/chromatograms/ja2003_c02.zip)

**Restriction Sites:** SgfI-MluI

**ACCN:** NM\_008540

**Insert Size:** 1656 bp

**OTI Disclaimer:** 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).

**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\\_008540.2](#), [NP\\_032566.2](#)

**RefSeq Size:** 3361 bp

**RefSeq ORF:** 1656 bp

**Locus ID:** 17128

**UniProt ID:** [P97471](#)

**Cytogenetics:** 18 49.51 cM

**Gene Summary:** Common SMAD (co-SMAD) is the coactivator and mediator of signal transduction by TGF-beta (transforming growth factor). Component of the heterotrimeric SMAD2/SMAD3-SMAD4 complex that forms in the nucleus and is required for the TGF-mediated signaling. Promotes binding of the SMAD2/SMAD4/FAST-1 complex to DNA and provides an activation function required for SMAD1 or SMAD2 to stimulate transcription. Component of the multimeric SMAD3/SMAD4/JUN/FOS complex which forms at the AP1 promoter site; required for synergistic transcriptional activity in response to TGF-beta. May act as a tumor suppressor. Positively regulates PDPK1 kinase activity by stimulating its dissociation from the 14-3-3 protein YWHAQ which acts as a negative regulator (By similarity). Acts synergistically with SMAD1 and YY1 in bone morphogenetic protein (BMP)-mediated cardiac-specific gene expression (PubMed:15329343). Binds to SMAD binding elements (SBEs) (5'-GTCT/AGAC-3') within BMP response element (BMPRE) of cardiac activating regions (PubMed:15329343). In muscle physiology, plays a central role in the balance between atrophy and hypertrophy. When recruited by MSTN, promotes atrophy response via phosphorylated SMAD2/4. MSTN decrease causes SMAD4 release and subsequent recruitment by the BMP pathway to promote hypertrophy via phosphorylated SMAD1/5/8.[UniProtKB/Swiss-Prot Function]