

## Product datasheet for **MG208755**

### **Smad4 (BC046584) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Smad4 (BC046584) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Smad4
Synonyms:	AW743858; D18Wsu70e; DPC4; Madh4
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG208755 representing BC046584  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGACAATATGTCTATAACAAATACACCAACAAGTAACGATGCCTGTCTGAGCATTGTACATAGTTTGA  
 TGTGTCATAGACAAGGTGGGAAAAGTGAACCTTTGCAAAAAGAGCAATTGAGAGTTTGGTAAAGAAGCT  
 GAAAGAGAAAAAAGATGAATTGGATTCTTTAATAACAGCTATAACTACAAATGGAGCTCATCCTAGCAAG  
 TGTGTCACCATACAGAGAACATTGGATGGACGACTTCAGGTGGCTGGTCGGAAAGGATTTCTCATGTGA  
 TCTATGCCCGTCTGTGGAGGTGGCTGATCTACACAAGAATGAACTAAAGCATGTTAAATATTGTGAGTA  
 TGCGTTTGACTTAAAATGTGACAGTGTCTGTGTAATCCATATCACTATGAGCGGTTGTCTCACCTGGA  
 ATTGATCTCTCAGGATTAACACTGCAGAGTAATGCTCAAAGTATGTTAGTGAAGGATGAGTACGTTACAG  
 ACTTTGAAGGACAGCCGCTTACCCACTGAAGGACATTCGATCAAACCATCCAACACCCGCCAAGTAA  
 TCGCGCATCAACGGAGACGTACAGCGCCCCGGCTCTGTTAGCCCCGCAGAGTCTAACGCCACCAGCACC  
 ACCAATTCCCAACATTCCTGTGGCTTCCACAAGTCAGCCGGCCAGTATTCTGGCGGGCAGCCATAGTG  
 AAGGACTGTTGCAGATAGCTTCAGGGCCTCAGCCAGGACAGCAGAGAATGGATTTACTGCTCAGCCAGC  
 TACTTACCATCATAACAGCACTACCACCTGGACTGGAAGTAGGACTGCACCATACACACCTAATTTGCC  
 CACCACAAAACGGCCATCTTCAGCACCACCCGCTATGCCGCCCCATCTGGACATTACTGGCCAGTTC  
 ACAATGAGCTTGCATTCCAGCCTCCATTTCCAATCATCTGCTCCTGAGTACTGGTGCTCCATTGCTTA  
 CTTTGAATGGACGTTCCAGTAGGAGAGACGTTTAAAGTCCCTCAAGCTGCCCTGTTGTGACTGTGGAT  
 GGCTATGTGGATCCTTCGGGAGGAGATCGCTTTTGCTGGGTCACTCTCAATGTCCACAGGACAGAAG  
 CGATTGAGAGAGCGAGGTTGCACATAGGCAAAGGAGTGCAGTTGGAATGTAAGGTGAAGGTGACGTTTG  
 GGTGAGGTGCCTTAGTGACCACGCGGTCTTTGTACAGAGTTACTACCTGGACAGAGAAGCTGGCCGAGCA  
 CCTGGCGACGCTGTTTATAAGATCTACCAAGCGCGTATATAAGGTCTTTGATCTGCGGACGTGTCACC  
 GGCAGATGCAGCAACAGGCGGCCACTGCACAAGCTGCAGCTGCTGCTCAGGCGGGCGCCGTGGCAGGAA  
 CATCCCTGGCCCTGGGTCCGTGGGTGGAATAGCTCCAGCCATCAGTCTGTCTGCTGCTGGCATCGGT  
 GTGGATGACCTCCGGGATTGTGCATTCTCAGGATGAGCTTTGTGAAGGGCTGGGCCCAGACTACCCCA  
 GGCAGAGCATCAAGGAAACCCCGTGTGGATTGAGATTCACCTTACCAGACTCTGCAGCTCTTGGATGA  
 AGTCTGCACACCATGCCATTGCGGACCCACAGCCTTTAGAC

**ACGCGTACGCGGCCGCTCGAG** – GFP Tag – GTTTAA

**Protein Sequence:**

>MG208755 representing BC046584  
 Red=Cloning site Green=Tags(s)

MDNMSITNTPTSNDACLIVHSLMCHRQGESETFAKRAIESLVKKLKEKKDELDSLITAITTNGAHPK  
 CVTIQRTLDGRLQVAGRKGFPHVIYARLWRWDLHKNELKHKYCYAFDLKCDSSVCVNPYHYERVVSPG  
 IDLSGLTLQSNAPSMLVKDEYVHDFEGQPSLPTEGHSIQTIQHPPSNRASTETYSAPALLAPAESNATST  
 TNFPNIPVASTSQPASILAGSHSEGLLQIASGPQPGQQNGFTAQPATYHHNSTTTWTGSRTPYTPNLP  
 HHQNGHLQHPPMPHPGHYWPVHNELAFQPPISNHPAPEYWCIAFYFEMDVQVGETFKVPSSCPVTVTD  
 GYVDPSGGDRFLGQLSNVHRTEAIERARLHIGKGVQLECKEGEDVWVRCLSDHAVFVQSYLDREAGRA  
 PGDAVHKIYPSAYIKVFDLRQCHRQMQQAATAQAAAAAQAQAAVAGNIPGPGSVGGIAPAISLSAAAGIG  
 VDDLRLCILRMSFVKGWGPDPYPRQSIKETPCWIEIHLHRLQLLDEVLHTMPIADPQLD

**TRTRPLE** – GFP Tag – V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** BC046584

**ORF Size:** 1653 bp

**OTI Disclaimer:** Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at [custsupport@origene.com](mailto:custsupport@origene.com) or by calling 301.340.3188 option 3 for pricing and delivery.

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).

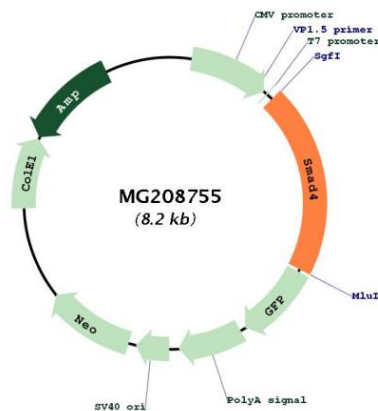
**Reconstitution Method:**

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:** [BC046584](#), [AAH46584](#)  
**RefSeq Size:** 3361 bp  
**RefSeq ORF:** 1655 bp  
**Locus ID:** 17128  
**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]

### Product images:



Circular map for MG208755