

## Product datasheet for **MR226787**

### **Tgfbr2 (NM\_009371) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Tgfbr2 (NM_009371) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Tgfbr2
Synonyms:	1110020H15Rik; AU042018; DNIIR; RIIDN; TbetaR-II; TbetaRII; TBR-II
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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**ORF Nucleotide Sequence:**

>MR226787 representing NM\_009371  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGTCGGGGCTGCTCCGGGCTGTGGCCGTGCATATCGTCTGTGGACGCGCATCGCCAGCAGCA  
 TCCCGCCGACGTTCCCAAGTCGGATGTGAAATGGAAGCCAGAAAGATGCATCCATCCACCTAAGCTG  
 TAATAGGACCATCCATCCACTGAAACATTTTAACAGTGATGTCATGGCCAGCGACAATGGCGGTGCGGT  
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 GCAACTGCAGCATCACGGCCATCTGTGAGAAGCCGCATGAAGTCTGCGTGGCCGTGTGGAGGAAGAACA  
 CAAGAACATTACTCTGGAGACGGTTTCCACGACCCCAAGCTCACCTACCACGGCTTCACTCTGGAAGAT  
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 ACATGGAAGAGTGAACGATTACATCATCTTTTCGGAAGAATACACCACCAGCAGTCCCACCTGTTGTT  
 GGTCAATTCCAAGTGACGGGTGTCAGCCTCCTGCCTCCGCTGGGATTGCCATAGCTGCATCATCATC  
 TTCTACTGCTACCGTGTCCACCGCAGCAGAAGCTGAGCCCGTCTGGGAGAGCAGCAAGCCCCGGAAC  
 TGATGGATTTCAAGTGAACATTTGCCATCATCCTGGAGGACGACCCTCCGACATCAGCTCCACGTGCGC  
 CAACAACATCAACCACAACACGGAGCTGCTGCCATCGAGCTGGACACGCTGGTGGGGAAGGGCCGCTTC  
 GCCGAGTCTACAAGCCAAGCTGAAGCAGAACACCTCAGAGCAGTTTGAGACCGTGGCTGTCAAGATCT  
 TCCCCTACGAGGAGTACTCCTCGTGAAAACAGAGAAGGACATCTTCTCCGATATCAACCTGAAGCATGA  
 GAACATCTGCAGTTCCTGACGGCCGAGGAGCGGAAGACAGAGCTGGCAAGCAGTACTGGCTGATCAGC  
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 GAAGTGAAGGATTACGAGCCCCATTTGGTTCCAAGGTGCGGGAGCACCCCTGTGTGGAGAGCATGAAAG  
 ACAGTGTGCTGAGAGACCGAGGGCGCCGAAATTCAGCTTCTGGCTCAACCACAGGGCATCCAGAT  
 CGTGTGTGAGACTTTGACCGAGTCTGGGACCATGACCCGAAGCCGCTCTCACAGCACAGTGTGTGGCA  
 GAGCGCTTCAGTGTGAGCTGGAGCATCCGGAGAGACTCTCTGGGAGGAGCTGCTCCAGGAGAAGATTCCAG  
 AAGATGGCTCGCTGAACACTACAAA

**ACGCGT**ACGCGGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
 ACAAGGATGACGACGATAAGGTTTAA

**Protein Sequence:**

>MR226787 representing NM\_009371  
 Red=Cloning site Green=Tags(s)

MGRGLLRGLWPLHIVLWTRIASTIPPHVPKSDVEMEAQKDASIHLSNRTIHPLKHFNSDVMASDNGGAV  
 KLPQLCKFCDVRLSTCDNQKSCMSNCSITAICEKPHEVCVAVWRKNDKNITLETVCHDPKLYHGFLET  
 AASPCKVMKEKKRAGETFFMCACNMEECNDYIIFSEEYTTSSPDLLLVIQVTVGSLLPPLGIAIAV  
 FYCYRVHRQQLSPSWESSKPRKLMDFSDNCAIILEDSDISSTCANNINHNTELLPIELDTLVGKGRF  
 AEVYKAKLKQNTSEQFETVAVKIFPYEEYSSWKTEKDIFSDINLKHENILQFLTAERKTELKQYWLIT  
 AFHAKGNLQEYLTRHVISWEDLRKLGSSLRGIAHLHSDHTPCGRPKMPIVHRDLKSSNILVKNDLTCL  
 CDFGLSLRLDPTLSVDDLANSQVGTARYMAPEVLESRMNLENVESFKQTDVYSMALVLEWMTSRCNAV  
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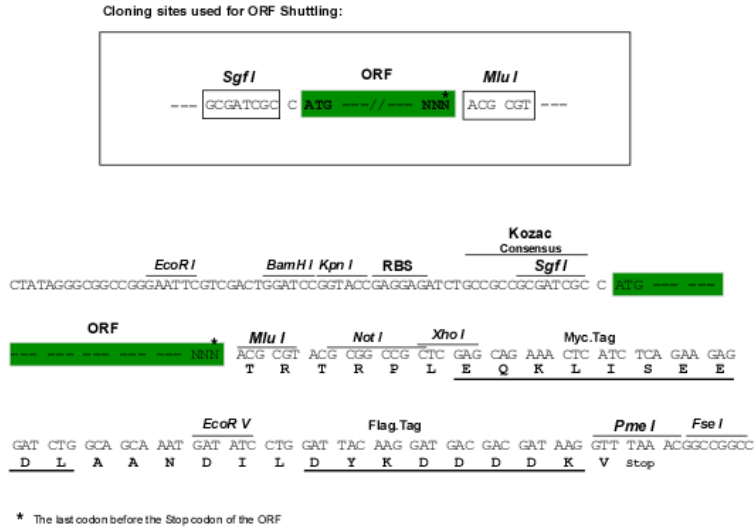
**TR**TRPLEQKLISEEDLAANDILDYKDDDDKV

**Chromatograms:**

[https://cdn.origene.com/chromatograms/mm9010\\_a01.zip](https://cdn.origene.com/chromatograms/mm9010_a01.zip)

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**



**ACCN:** NM\_009371

**ORF Size:** 1776 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:** [NM\\_009371.3](#), [NP\\_033397.3](#)

**RefSeq Size:** 4803 bp

**RefSeq ORF:** 1779 bp

**Locus ID:** 21813

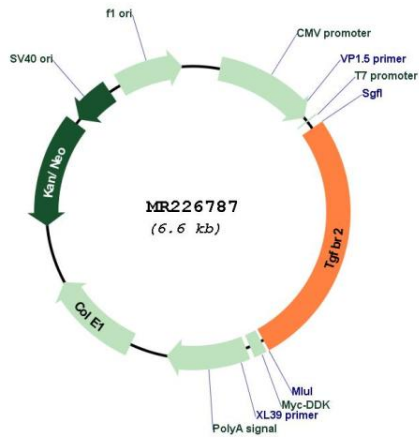
**UniProt ID:** [Q62312](#)

**Cytogenetics:** 9 68.39 cM

**MW:** 67.6 kDa

**Gene Summary:** Transmembrane serine/threonine kinase forming with the TGF-beta type I serine/threonine kinase receptor, TGFBR1, the non-promiscuous receptor for the TGF-beta cytokines TGFB1, TGFB2 and TGFB3. Transduces the TGFB1, TGFB2 and TGFB3 signal from the cell surface to the cytoplasm and is thus regulating a plethora of physiological and pathological processes including cell cycle arrest in epithelial and hematopoietic cells, control of mesenchymal cell proliferation and differentiation, wound healing, extracellular matrix production, immunosuppression and carcinogenesis. The formation of the receptor complex composed of 2 TGFBR1 and 2 TGFBR2 molecules symmetrically bound to the cytokine dimer results in the phosphorylation and the activation of TGFBR1 by the constitutively active TGFBR2. Activated TGFBR1 phosphorylates SMAD2 which dissociates from the receptor and interacts with SMAD4. The SMAD2-SMAD4 complex is subsequently translocated to the nucleus where it modulates the transcription of the TGF-beta-regulated genes. This constitutes the canonical SMAD-dependent TGF-beta signaling cascade. Also involved in non-canonical, SMAD-independent TGF-beta signaling pathways (By similarity).[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MR226787