

## Product datasheet for **MC219401**

### **Tgfbr2 (NM\_009371) Mouse Untagged Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Tgfbr2 (NM_009371) Mouse Untagged Clone
Tag:	Tag Free
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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Fully Sequenced ORF: >MC219401 representing NM\_009371  
Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCCGCGATCGCC

ATGGGTCGGGGCTGCTCCGGGCTGTGGCCGCTGCATATCGTCTGTGGACGCGCATCGCCAGCACGA  
TCCCGCCGACGTTCCCAAGTCGGATGTGGAAATGGAAGCCAGAAAGATGCATCCATCCACCTAAGCTG  
TAATAGGACCATCCATCCACTGAAACATTTTAACAGTGATGTCATGGCCAGCGACAATGGCGGTGCGGT  
AAGCTTCCACAGCTGTGCAAGTTTTCGATGTGAGACTGTCCACTTGCACAAACCAGAAGTCTGCATGA  
GCAACTGCAGCATCACGGCCATCTGTGAGAAGCCGCATGAAGTCTGCGTGGCCGTGTGGAGGAAGAACA  
CAAGAACATTACTCTGGAGACGGTTTCCACGACCCCAAGCTCACCTACCACGGCTTCACTCTGGAAGAT  
GCCGCTTCTCCCAAGTGTGCATGAAGGAAAAGAAAAGGGCGGGCAGACTTTCATGTGTGCCTGTA  
ACATGGAAGAGTGCAACGATTACATCATCTTTTCGGAAGAATACACCACCAGCAGTCCCACCTGTTGTT  
GGTCATTATCCAAGTGACGGGTGTCAGCCTCCTGCCTCCGCTGGGATTGCCATAGCTGTATCATCATC  
TTCTACTGCTACCGTGTCCACCGGCAGCAGAAGCTGAGCCCGTCTGGGAGAGCAGCAAGCCCCGGAAC  
TGATGGATTTTCAGTGACAATTGTGCCATCATCCTGGAGGACGACCCTCCGACATCAGCTCCACGTGCGC  
CAACAACATCAACCACAACACGGAGCTGCTGCCATCGAGCTGGACACGCTGGTGGGGAAGGGCCGCTTC  
GCCGAGGTCTACAAGGCCAAGCTGAAGCAGAACACCTCAGAGCAGTTTGAGACCGTGGCTGTCAAGATCT  
TCCCCTACGAGGAGTACTCCTCGTGAAAAACAGAGAAGGACATCTTCTCCGATATCAACCTGAAGCATGA  
GAACATCCTGCAGTTCCTGACGGCCGAGGAGCGGAAGACAGAGCTGGCAAGCAGTACTGGCTGATCAGC  
GCGTTCACGCGAAGGGCAACCTGCAGGAGTACCTCACGAGGCATGTATCAGCTGGGAGGACCTGAGGA  
AGCTGGCAGCTCCCTGGCCCGGGGCATCGCTCATCTCCACAGTGACCACACTCCTTGTGGGAGGCCCAA  
GATGCCCATTTGTTACAGGGACCTCAAGAGCTCTAACATCCTAGTGAAGAACGACTTGACCTGTTGCCTG  
TGTGACTTCGGGCTGTCTTGGCCTGGACCCTACTCTGTCTGTGGATGACCTGGCCAACAGCGGGCAGG  
TGGGAACGGCAAGATACATGGCCCCGGAAGTTCTAGAATCCAGGATGAATCTGGAAAACGTGGAGTCGTT  
CAAGCAGACGGATGTCTACTCCATGGCTCTGGTACTCTGGGAAATGACGTCCCGCTGCAATGCTGTGGGA  
GAAGTGAAGGATTACGAGCCCCATTTGGTTCCAAGGTGCGGGAGCACCCCTGTGTGGAGAGCATGAAAG  
ACAGTGTGCTGAGAGACCGAGGGCGCCGAAATTCACAGCTTCTGGCTCAACCACCAGGGCATCCAGAT  
CGTGTGTGAGACTTTGACCGAGTGTGGACCATGACCCCGAAGCCGTCTCACAGCACAGTGTGTGGCA  
GAGCGCTTCAGTGAGCTGGAGCATCCGGAGAGACTCTCTGGGAGGAGCTGCTCCAGGAGAAGATCCAG  
AAGATGGCTCGCTGAACACTACCAATAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

Chromatograms: [https://cdn.origene.com/chromatograms/ja1869\\_e06.zip](https://cdn.origene.com/chromatograms/ja1869_e06.zip)

Restriction Sites: SgfI-MluI

ACCN: NM\_009371

Insert Size: 1779 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](#)

**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

**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] Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (1).