

## Product datasheet for **MG209231**

### **Tgfbr2 (BC052629) Mouse Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	Tgfbr2 (BC052629) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Tgfbr2
Synonyms:	DNIIR, RIIDN, TbetaRII, TbetaR-II
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG209231 representing BC052629  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGGGTCGGGGCTGCTCCGGGCTGTGGCCGCTGCATATCGTCTGTGGACGCGCATCGCCAGCACGA  
 TCCCGCCGACGTTCCCAAGTCGGATGTGAAATGGAAGCCAGAAAGATGCATCCATCCACCTAAGCTG  
 TAATAGGACCATCCATCCACTGAAACATTTTAACAGTGATGTCATGGCCAGCGACAAATGGCGGTGCGGT  
 AAGCTTCCACAGCTGTGCAAGTTTTCGATGTGAGACTGTCCACTTGCACAAACCAGAAGTCTGCATGA  
 GCAACTGCAGCATCACGGCCATCTGTGAGAAGCCGCATGAAGTCTGCGTGGCCGTGTGGAGGAAGAACA  
 CAAGAACATTACTCTGGAGACGGTTTCCACGACCCCAAGCTCACCTACCACGGCTTCACTCTGGAAGAT  
 GCCGCTTCTCCCAAGTGTGCATGAAGGAAAAGAAAAGGGCGGGCAGACTTTCTCATGTGTGCCTGTA  
 ACATGGAAGAGTGAACGATTACATCATCTTTTCGGAAGAATACACCACCAGCAGTCCCGACCTGTTGTT  
 GGTCAATTCCAAGTGACGGGTGTCAGCCTCCTGCCTCCGCTGGGATTGCCATAGCTGCATCATCATC  
 TTCTACTGCTACCGTGTCCACCGCAGCAGAAGCTGAGCCCGTCTGGGAGAGCAGAAGCCCCGGAAC  
 TGATGGATTTTCAGTGACAATTGTGCCATCATCCTGGAGGACGACCGCTCCGACATCAGCTCCACGTGCGC  
 CAACAACATCAACCACAACACGGAGCTGCTGCCATCGAGCTGGACACGCTGGTGGGGAAGGGCCGCTTC  
 GCCGAGGTCTACAAGCCAAGCTGAAGCAGAACACCTCAGAGCAGTTTGAGACCGTGGCTGTCAAGATCT  
 TCCCCTACGAGGAGTACTCCTCGTGAAAACAGAGAAGGACATCTTCTCCGATATCAACCTGAAGCATGA  
 GAACATCCTGCAGTTCCTGACGGCCGAGGAGCGGAAGACAGAGCTGGCAAGCAGTACTGGCTGATCAGC  
 GCGTTCACGCGAAGGGCAACCTGCAGGAGTACCTCACGAGCATGTATCAGCTGGGAGGACCTGAGGA  
 AGCTGGCAGCTCCCTGGCCCGGGCATCGCTCATCTCCACAGTGACCACACTCCTTGTGGGAGGCCAA  
 GATGCCCATTTGTTACAGGGACCTCAAGAGCTCTAACATCCTAGTGAAGAACGACTTGACCTGTTGCCTG  
 TGTGACTTCGGGCTGTCCTTGGCCTGGACCCTACTCTGTCTGTGGATGACCTGGCCAACAGCGGCGAGG  
 TGGGAACGGCAAGATACATGGCCCCGGAAGTTCTAGAATCCAGGATGAATCTGGAACAGTGGAGTCGTT  
 CAAGCAGACGGATGTCTACTCCATGGCTCTGGTACTCTGGGAAATGACGTCCTGCAATGCTGTGGGA  
 GAAGTGAAGGATTACGAGCCCCATTTGGTTCCAAGGTGCGGGAGACCCCTGTGTGGAGAGCATGAAAG  
 ACAGTGTGCTGAGAGACCGAGGGCGGCCGAAATTCACAGCTTCTGGCTCAACCACCAGGGCATCCAGAT  
 CGTGTGTGAGACTTTGACCGAGTGTGGACCATGACCCCGAAGCCGCTCTCACAGCACAGTGTGTGGCA  
 GAGCGCTTCAGTGAGCTGGAGCATCCGGAGAGACTCTCTGGGAGGAGCTGCTCCAGGAGAAGATCCAG  
 AAGATGGCTCGCTGAACACTACAAA

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

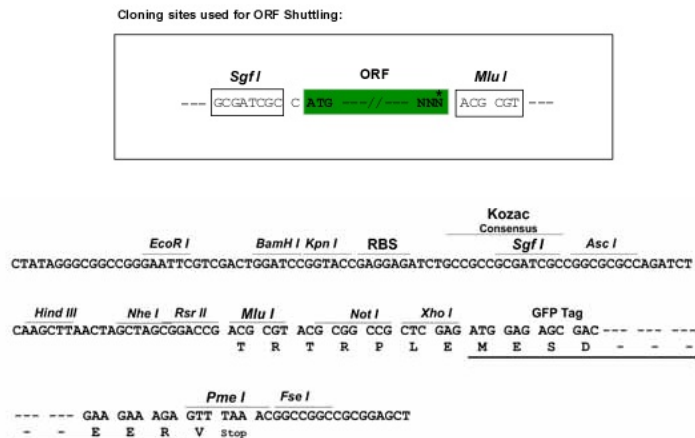
>MG209231 representing BC052629  
 Red=Cloning site Green=Tags(s)

MGRGLLRGLWPLHIVLWTRIASTIPPHVPKSDVEMEAQKDASIHLSNRTIHPLKHFNSDVMASDNGGAV  
 KLPQLCKFCDVRLSTCDNQKSCMSNCSITAICEKPHEVCVAVWRKNDKNITLETVCHDPKLYHGFLED  
 AASPKVMKEKKRAGETFFMCACNMEECNDYIIFSEEYTTSSPDLLLVIQVTVGSLLPPLGIAIAVII  
 FYCYRVHRQQLSPSWESSKPRKLMDFSDNCAIILEDSDISSTCANNINHNTPELLDITLVGKGRF  
 AEVYKAKLKQNTSEQFETVAVKIFPYEYSSWKTEKDIFSDINLKHENILQFLTAERKTELKQYWLIT  
 AFHAKGNLQEYLTRHVISWEDLRKLGSSSLARGIAHLHSDHTPCGRPKMPIVHRDLKSSNILVKNDLTCCL  
 CDFGLSLRLDPTLSVDDLANSQVGTARYMAPEVLESRMNLENVESFKQTDVYSMALVLWEMTSRCNAVG  
 EVKDYEPFPGSKVREHPCVSEMKDSVLRDRGRPEIPSFWLNHQGIQIVCETLTCWDHDPPEARLTAQCVA  
 ERFSELEHPERLSGRSCSQEKIPEDGSLNNTTK

**TRTRPLE** - GFP Tag - V

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**


**ACCN:** BC052629

**ORF Size:** 1776 bp

**OTI Disclaimer:** 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:** [BC052629](#)

**RefSeq Size:** 8165 bp

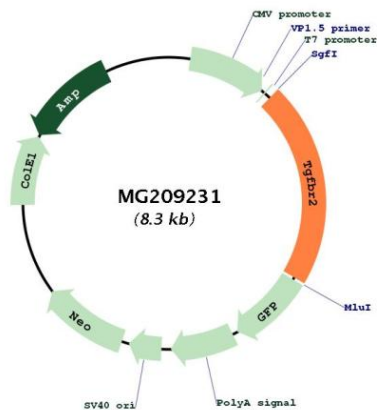
**RefSeq ORF:** 1778 bp

**Locus ID:** 21813

**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]

**Product images:**

Circular map for MG209231