

## Product datasheet for **MR226791**

### **Tgfbr2 (NM\_029575) Mouse Tagged ORF Clone**

#### **Product data:**

|                    |  |
|--------------------|--|
| Product Type:      | Expression Plasmids  |
| Product Name:      | Tgfbr2 (NM_029575) Mouse Tagged ORF Clone                          |
| Tag:               | Myc-DDK  |
| Symbol:            | Tgfbr2   |
| Synonyms:          | 1110020H15Rik; AU042018; DNIIR; RIIDN; TbetaR-II; TbetaRII; TBR-II |
| Vector:            | pCMV6-Entry (PS100001)   |
| E. coli Selection: | Kanamycin (25 ug/mL)   |
| Cell Selection:    | Neomycin   |



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**ORF Nucleotide Sequence:**

>MR226791 representing NM\_029575  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGGTCGGGGCTGCTCCGGGCTGTGGCCGCTGCATATCGTCTGTGGACGCGCATCGCCAGCACGA  
 TCCCGCCGACGTTCCCAAGTCGGTTAACAGTGATGTCATGGCCAGCGACAATGGCGGTGCGGTCAAGCT  
 TCCACAGCTGTGCAAGTTTTGCGATGTGAGACTGTCCACTTGCACAAACCAGAAGTCTGCATGAGCAAC  
 TGCAGCATCACGGCCATCTGTGAGAAGCCGCATGAAGTCTGCGTGGCCGTGTGGAGGAAGAACGACAAGA  
 ACATTACTCTGGAGACGGTTTGCACGACCCCAAGCTCACCTACCACGGCTTCACTCTGGAAGATGCCGC  
 TTCTCCCAAGTGTGCATGAAGGAAAAGAAAAGGGCGGGCAGACTTTCTTCATGTGTGCCTGTAACATG  
 GAAGAGTGCAACGATTACATCATCTTTTCGGAAGAATACACCACCAGCAGTCCCGACCTGTTGTTGGTCA  
 TTATCCAAGTGACGGGTGTCAGCCTCCTGCCTCCGCTGGGGATTGCCATAGCTGCATCATCATCTTCTA  
 CTGCTACCGTGTCCACCGCAGCAGAAGCTGAGCCCGTCTGGGAGAGCAGCAAGCCCCGAAACTGATG  
 GATTTTCAGTGACAATTGTGCCATCATCCTGGAGGACGACCGCTCCGACATCAGCTCCACGTGCGCCAACA  
 ACATCAACCACAACACGGAGCTGCTGCCATCGAGCTGGACACGCTGGTGGGGAAGGGCCGCTTCGCCGA  
 GGTCTACAAGGCCAAGCTGAAGCAGAACACCTCAGAGCAGTTTGGAGCCGTGGCTGTCAAGATCTTCCCC  
 TACGAGGAGTACTCCTCGTGAAACAGAGAAGGACATCTTCTCCGATATCAACCTGAAGCATGAGAACA  
 TCCTGCAGTTCCTGACGGCCGAGGAGCGGAAGACAGAGCTGGCAAGCAGTACTGGCTGATCACGGCGTT  
 CCACGCGAAGGGCAACCTGCAGGAGTACCTCACAGGCATGTATCAGCTGGGAGACCTGAGGAAGCTG  
 GGCAGCTCCCTGGCCCGGGCATCGCTCATCTCCACAGTGACCACACTCCTTGTGGGAGGCCCAAGATGC  
 CATTGTTCACAGGGACCTCAAGAGCTTAACATCCTAGTGAAGAAGACTTGACCTGTTGCCTGTGTA  
 CTTCCGGCTGTCTTGCCTGGACCCTACTCTGTCTGTGGATGACCTGGCCAACAGCGGGCAGGTGGGA  
 ACGGCAAGATACATGGCCCCGGAAGTTCTAGAATCCAGGATGAATCTGGAACACTGGAGTCTTCAAGC  
 AGACGGATGTCTACTCCATGGCTCTGGTACTCTGGGAAATGACGTCCTGCAATGCTGTGGGAGAAGT  
 GAAGGATTACGAGCCCCATTTGGTTCCAAGGTGCGGGAGACCCCTGTGTGGAGAGCATGAAAGACAGT  
 GTGCTGAGAGACCGAGGGCGCCGAAATTCAGCTTCTGGCTCAACCACCAGGCATCCAGATCGTGT  
 GTGAGACTTTGACCGAGTCTGGGACATGACCCGAAGCCGCTCACAGCACAGTGTGTGGCAGAGCG  
 CTTTCAGTGAGCTGGAGCATCCGGAGAGACTCTCTGGGAGGAGCTGCTCCAGGAGAAGATTCCAGAAGT  
 GGCTCGCTGAACACTACAAA

**ACGGTACGGCGCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT**  
**ACAAGGATGACGACGATAAGGTTTAA**

**Protein Sequence:**

>MR226791 representing NM\_029575  
 Red=Cloning site Green=Tags(s)

MGRGLLRGLWPLHIVLWTRIASTIPPHVPSVNSDVMASDNGGAVKLPQLCKFCDVRLSTCDNQKSCMSN  
 CSITAICEKPHEVCVAVWRKNDKNITLETVCHDPKLYHGFLEDAASPKCVMKEKKRAGETFFMCACNM  
 EECNDYIIFSEYTTSSPDLLLVIQVTGVSLLPPLGIAIAVIIIFYCYRVHRQQKLSWESSKPRKLM  
 DFDNCAIILEDSDISSTCANNINHNTELLPIELDTLVGKGRFAEVYKAKLKQNTSEQFETVAVKIFP  
 YEEYSSWKTEKDIFSDINLKHENILQFLTAERKTELGKQYWLITAFHAKGNLQEYLTRHVISWEDLRKL  
 GSSLARGIAHLSDHTPCGRPKMPIVHRDLKSSNILVKNDLTCCLCDFGLSLRLDPTLSVDDLANSQVVG  
 TARYMAPEVLESRMLENVESFKQTDVYSMALVLWEMTSRCNAVGEVKDYEPFPGSKVREHPCVESMKDS  
 VLRDRGRPEIPFWLHNQGIQIVCETLTCWDHDPPEARLTAQCVARFSELEHPERLSGRSCSQEKIPED  
 GSLNTTK

**TRTRPLEQKLISEEDLAANDILDYKDDDDKV**

**Restriction Sites:**

Sgfl-MluI

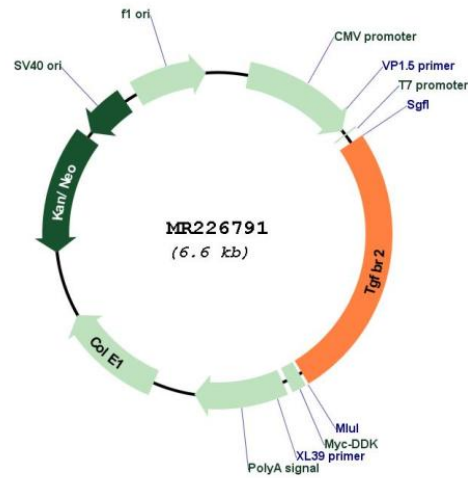
Cloning Scheme:

Cloning sites used for ORF Shutting:



\* The last codon before the Stop codon of the ORF

Plasmid Map:



ACCN: NM\_029575  
 ORF Size: 1701 bp

|                               |   |
|-------------------------------|---|
| <b>OTI Disclaimer:</b>        | 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. <a href="#">More info</a>  |
| <b>OTI Annotation:</b>        | This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.  |
| <b>Components:</b>            | 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).  |
| <b>Reconstitution Method:</b> | <ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>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.</li></ol>   |
| <b>RefSeq:</b>                | <a href="#">NM_029575.3</a> , <a href="#">NP_083851.3</a>   |
| <b>RefSeq Size:</b>           | 4728 bp   |
| <b>RefSeq ORF:</b>            | 1704 bp   |
| <b>Locus ID:</b>              | 21813   |
| <b>Cytogenetics:</b>          | 9 68.39 cM  |
| <b>MW:</b>                    | 64.7 kDa  |
| <b>Gene Summary:</b>          | <p>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]</p> |