

## Product datasheet for **MG223796**

### Tigar (NM\_177003) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Tigar (NM\_177003) Mouse Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** Tigar  
**Synonyms:** 9630033F20Rik; AA793651; AI595337; C79710; C85509  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >MG223796 representing NM\_177003  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGATCGCC**

ATGCCGCGCTTCGCCTTGACCGTTATCCGCCATGGTGAACAAGACTTAATAAGGAGAAAATCATTCAAG  
 GACAAGGCGTAGATGCGCCCTTTCGGAGACTGGGTTTCGGCAAGCAGCGGCCCGCCGCGCAGTTTCTGAG  
 CAATGTGCAGTTTACCCACGCCTTCTCCAGCGATCTCACGAGGACTAAGCAGACCATAACATGGCATTCTG  
 GAGAAAAGCAGATTTTGTAAAGACATGGCGGTGAAGTACGACTCCAGGCTCCGAGAAAGGATGTACGGAG  
 TCGCGGAAGGCAAGCCGCTAAGCGAGCTTCGGGCCATGGCCAAAGCCGCTGGGGAAGAGTGCCCATGTT  
 CACCCCGCTGGAGGAGAGACAGTTGAGCAGGTAAGATGCGCGGAAAGGATTTCTTTGATTTTCATTGT  
 CAGCTAATCCTGGCAAGGCAGGGCAGAGAGAAAAGCGTCTGCCTGGAGCGCCAGGCAGCGGTTTGAAA  
 GCTCTTTGGCAGAGGTTTTCCCTGTTGGAAAACATGGCAGCTTGGGGGCGAATCCCAAAGGTGGCACCCCT  
 GGGCTTAGCAGCCAGCATCTTAGTTGTGAGCCATGGCGCTTACATGAGAAGCCTCTTTGGTTATTTCTG  
 AGTGACCTCAGATGCTCGTTGCCAGGAGCGAGAGACAAATTGGAACCTTCTCCATCACTCCCAACACTG  
 GGATCAGTGTCTTCATCATAGACTGTGAGGAAGCACGCCAGCCATCGATTCAGTGCCTTTGTATGAACCT  
 CCAGGAGCACCTGAACGGAGTACTGAGAAGCAGCAC

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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Protein Sequence: >MG223796 representing NM\_177003  
 Red=Cloning site Green=Tags(s)

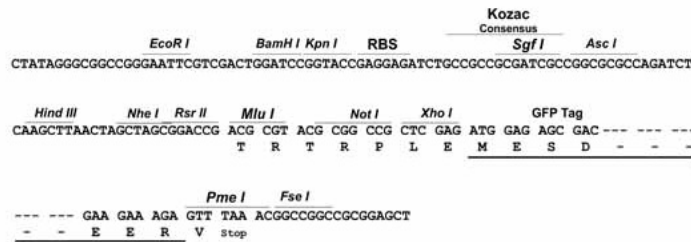
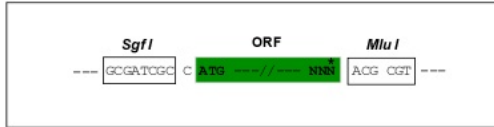
MPRFALTVIRHGETRLNKEKIIQQGGVDAPLSETGFRQAAAAGQFLSNVQFTHAFSSDLTRTKQTIHGIL  
 EKSRFCKDMAVKYDSRLRERMYGVAEGKPLSELRAMAKAAGEECPMFTPPGGETVEQVKMRGKDFDFDIC  
 QLILGKAGQRESVLPGAPGSGLESSLAEVFPVKGHSLGANPKGGTLGLAASILVYSHGAYMRSLFGYFL  
 SDLRCSLPGARDKLELSSITPNTGISVFIIDCEEARQPSIQVCVCMNLQEHLNGVTEKQH

TRTRPLE - GFP Tag - V

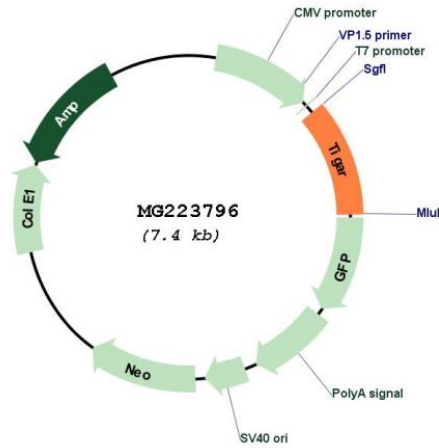
Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



Plasmid Map:



ACCN: NM\_177003  
 ORF Size: 807 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_177003.5</a> , <a href="#">NP_795977.1</a>
<b>RefSeq Size:</b>	3653 bp
<b>RefSeq ORF:</b>	810 bp
<b>Locus ID:</b>	319801
<b>UniProt ID:</b>	<a href="#">Q8BZA9</a>
<b>Cytogenetics:</b>	6 F3

**Gene Summary:**

Fructose-bisphosphatase hydrolyzing fructose-2,6-bisphosphate as well as fructose-1,6-bisphosphate (By similarity). Acts as a negative regulator of glycolysis by lowering intracellular levels of fructose-2,6-bisphosphate in a p53/TP53-dependent manner, resulting in the pentose phosphate pathway (PPP) activation and NADPH production (PubMed:23726973). Contributes to the generation of reduced glutathione to cause a decrease in intracellular reactive oxygen species (ROS) content, correlating with its ability to protect cells from oxidative or metabolic stress-induced cell death (PubMed:23726973). Plays a role in promoting protection against cell death during hypoxia by decreasing mitochondria ROS levels in a HK2-dependent manner through a mechanism that is independent of its fructose-bisphosphatase activity (By similarity). In response to cardiac damage stress, mediates p53-induced inhibition of myocyte mitophagy through ROS levels reduction and the subsequent inactivation of BNIP3 (PubMed:22044588). Reduced mitophagy results in an enhanced apoptotic myocyte cell death, and exacerbates cardiac damage (PubMed:22044588). Plays a role in adult intestinal regeneration; contributes to the growth, proliferation and survival of intestinal crypts following tissue ablation (PubMed:23726973). Plays a neuroprotective role against ischemic brain damage by enhancing PPP flux and preserving mitochondria functions (PubMed:24872551). Protects glioma cells from hypoxia- and ROS-induced cell death by inhibiting glycolysis and activating mitochondrial energy metabolism and oxygen consumption in a TKTL1-dependent and p53/TP53-independent manner. Plays a role in cancer cell survival by promoting DNA repair through activating PPP flux in a CDK5-ATM-dependent signaling pathway during hypoxia and/or genome stress-induced DNA damage responses (By similarity). Involved in intestinal tumor progression (PubMed:23726973). [UniProtKB/Swiss-Prot Function]