

## Product datasheet for **MG223070**

### Tdg (NM\_172552) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Tdg (NM_172552) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Tdg
Synonyms:	E130317C12Rik; JZA-3; Jza1
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>MG223070 representing NM_172552 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGACGCAGAGGCCGCGCAGCTATTCTCTGGAGCAAGTTCAAGCTTTGTATTTCATTTCCATTTCAAC  
AAATGATGGCAGAAGTTCTAACATGGCAGTCACGACTGGACAGCAGGTGCCAGCAGTAGCTCCTAACAT  
GGCAACCGTGACAGAACAGCAGGTGCCGAAGACGCTCCTGTCCAGAACCTGCACCAGAAGCTCCAAG  
AGAAGGAAAAGGAAACCCAGAGCAGCAGAGCCCCAGGAACCAAGTGGAGCCAAAAACCTGCTACGTCGA  
AGAAATCCGGCAAGTCTACAAAATCAAAGGAAAAGCAGGAGAAAATCACAGACCGTTTTAAAGTAAAAG  
GAAAGTGGACCGTTCAACGGCTCTCTGAAGCTGAGCTTCTGACCAAGACTCTTCTGACATTTTGACC  
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CCTGCAGCTTGCAGCAAGAGGACGCAAGAGATGGCTGTTAAGGAAGAAAAGTATGATCCAGGCTATGAG  
GCAGCTTACGGCGGTGCCTATGGGAAAACCCATGTAATGGGAAACCTTGTGGCATTGCTTCAAATGGGC  
TAACAGCTCACAGTGGGAGCCGAGAGGAGAAGCGGCCCCAGCGATGTTCCGAATGGGCAGTGGATGGC  
ACAGTCGTTTGCAGAGCAGATCCCTTCTTTAATAATTGTGGACCCGAGAGCAGGAAGAAGAGAGCCAC  
GCT

AGCGGACCGACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA



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**Protein Sequence:** >MG223070 representing NM\_172552  
Red=Cloning site Green=Tags(s)

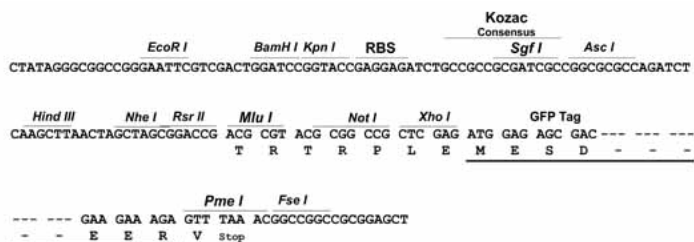
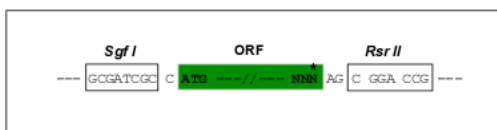
MDAEAARSYSLEQVQALYSFPFQQMMAEVPNMAVTTGQQVPAVAPNMAVTEQQVPEDAPVQEPAPEAPK  
 RRRKRKPRAAEPQEPVEPKKPATSKKSGKSTKSKEKQEKITDAFKVKRKRKDRFNGVSEAELLTKTLPDILT  
 FNLDIVIIIGINPGLMAAYKGGHYPGPGNHFWKCLFMSGLSEVQLNHMDDHTLPGKYGIGFTNMVERTTPG  
 SKDLSSKEFREGGRILVQKLQKYQPRIAVFNGKCIYEIFSKVEFVGVKVNLEFGLQPHKIPDTETLCYVM  
 PSSSARCAQFPRAQDKVHYIYIKLKDRLDQLKGIERNADVQEVQYTFDLQLAQEDAKKMAVKEEKYDPGYE  
 AAYGGAYGENPCNGEPCGIASNGLTAHSAEPRGEAAPSDVPNGQWMAQSFQAEQIPSFNCCGTREQEESH  
 A

SGPTRRRLE - GFP Tag - V

**Restriction Sites:** SgfI-RsrII

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



**ACCN:** NM\_172552

**ORF Size:** 1263 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:** [NM\\_172552.4](#)

**RefSeq Size:** 3218 bp

**RefSeq ORF:** 1266 bp

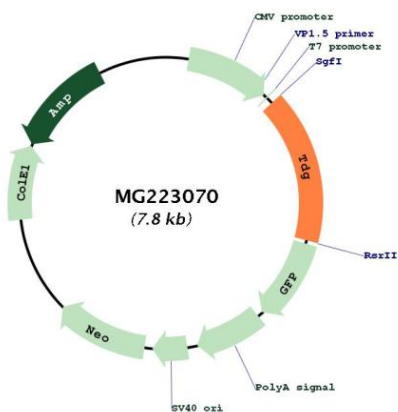
**Locus ID:** 21665

**UniProt ID:** [P56581](#)

**Cytogenetics:** 10 39.72 cM

**Gene Summary:** DNA glycosylase that plays a key role in active DNA demethylation: specifically recognizes and binds 5-formylcytosine (5fC) and 5-carboxylcytosine (5caC) in the context of CpG sites and mediates their excision through base-excision repair (BER) to install an unmethylated cytosine (PubMed:21817016). Cannot remove 5-hydroxymethylcytosine (5hmC). According to an alternative model, involved in DNA demethylation by mediating DNA glycolase activity toward 5-hydroxymethyluracil (5hmU) produced by deamination of 5hmC (PubMed:21722948). Also involved in DNA repair by acting as a thymine-DNA glycosylase that mediates correction of G/T mismatches to G/C pairs: in the DNA of higher eukaryotes, hydrolytic deamination of 5-methylcytosine to thymine leads to the formation of G/T mismatches. Its role in the repair of canonical base damage is however minor compared to its role in DNA demethylation. It is capable of hydrolyzing the carbon-nitrogen bond between the sugar-phosphate backbone of the DNA and a mispaired thymine. In addition to the G/T, it can remove thymine also from C/T and T/T mismatches in the order G/T >> C/T > T/T. It has no detectable activity on apyrimidinic sites and does not catalyze the removal of thymine from A/T pairs or from single-stranded DNA. It can also remove uracil and 5-bromouracil from mismatches with guanine.[UniProtKB/Swiss-Prot Function]

Product images:



Circular map for MG223070