

## Product datasheet for **RG202872**

### **MMP9 (NM\_004994) Human Tagged ORF Clone**

#### **Product data:**

Product Type:	Expression Plasmids
Product Name:	MMP9 (NM_004994) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	MMP9
Synonyms:	CLG4B; GELB; MANDP2; MMP-9
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>RG202872 representing NM\_004994  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGAGCCTCTGGCAGCCCCTGGTCTGGTCTCTGGTCTGGGCTGCTGCTTTGCTGCCCCAGACAGC  
 GCCAGTCCACCCTTGTGCTCTTCCCTGGAGACCTGAGAACCAATCTCACCGACAGGCAGCTGGCAGAGGA  
 ATACCTGTACCGCTATGGTTACACTCGGGTGGCAGAGATGCGTGGAGAGTCGAAATCTCTGGGGCCTGCG  
 CTGCTGCTTCTCCAGAAGCAACTGTCCCTGCCGAGACCGGTGAGCTGGATAGCGCCACGCTGAAGGCCA  
 TCGAACCACCGGTGCGGGTCCAGACCTGGGCAGATTCCAAACCTTTGAGGGCGACCTCAAGTGGCA  
 CCACCACAACATCACCTATTGGATCCAAAATACTCGAAAGACTTGCCGCGGGCGGTGATTGACGACGCC  
 TTTGCCCGCGCTTCGCACTGTGGAGCGCGGTGACGCCGCTCACCTTCACTCGCGTGTACAGCCGGGACG  
 CAGACATCGTCATCCAGTTTGGTGTGCGGAGCACGGAGACGGGTATCCCTTCGACGGGAAGGACGGGT  
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 TCCTGGCAAGGGCGTGTGGTTCCAACCTCGGTTTGGAAACGCAGATGGCGCGGCTGCCACTTCCCT  
 TCATCTTCGAGGGCCGCTCCTACTCTGCCTGCACCACCGACGGTCTGCCGACGGCTTGCCTGGTGCAG  
 TACCACGGCAACTACGACACCGACGACCGGTTTGGCTTCTGCCCCAGCGAGAGACTCTACACCCGGGAC  
 GGCAATGTGTATGGGAAACCTGCCAGTTTCCATTCATCTTCAAAGGCAATCCTACTCCGCTGCACCA  
 CGGACGGTCGCTCCGACGGTACCGTGGTGGCCACCACCGCAACTACGACGGGACAAGCTCTTCGG  
 CTTCTGCCGACCCGAGCTGACTCGACGGTGTGGGGGCAACTCGCGGGGAGCTGTGCGTCTTCCC  
 TTCCTTTCTGGGTAAAGGACTACTCGACTGTACCAGCGAGGGCCGCGGAGATGGGCGCTCTGGTGGC  
 CTACCACCTGAACTTTGACAGCGACAAGAAGTGGGCTTCTGCCCGACCAAGGATACAGTTTGTCTCT  
 CGTGGCGGCGCATGAGTTCGGCCACGCGCTGGGCTTAGATCATTCCCTCAGTGCCGGAGGCGCTCATGTAC  
 CCTATGTACCGCTTCACTGAGGGGCCCTTGCATAAAGGACGACGTGAATGGCATCCGGCACCTTATG  
 GTCCTCGCCTGAACCTGAGCCACGGCCTCCAACCACCACACCGCAGCCACGGCTCCCCGACGGT  
 CTGCCCCACCGGACCCCCACTGTCCACCCTCAGAGCGCCCCACAGCTGGCCCCACAGTCCCCCTCA  
 GCTGGCCCCACAGGTCCCCACTGTGGCCTTCTACGGCCACTACTGTGCTTTGAGTCCGGTGGACG  
 ATGCTGCAACGTGAACATCTTCGACGCCATCGCGGAGATTGGGAACCAGCTGTATTTGTTCAAGGATGG  
 GAAGTACTGGCGATTCTCTGAGGGCAGGGGAGCCGGCCGAGGGCCCTTCTTATCGCCGACAAGTGG  
 CCCGCGTGGCCGCAAGCTGGACTCGGTCTTTGAGGAGCGCTCTCAAGAAGCTTTTCTTCTCTCTG  
 GCGCCAGGTGTGGGTGTACACAGGCGCGTCTGGTCTGGGCCGAGGCGTCTGGACAAGCTGGGCTGGG  
 AGCCGACGTGGCCAGGTGACCGGGGCCCTCCGGAGTGGCAGGGGGAAGATGCTGCTGTTAGCGGGCGG  
 CGCCTCTGGAGGTTTCGACGTGAAGGCGCAGATGGTGGATCCCCGGAGCGCCAGCGAGGTGGACCGGATG  
 TCCCCGGGTGCCTTTGGACACGCACGACGTCTTCCAGTACCGAGAGAAAGCCTATTTCTGCCAGGACCG  
 CTTCTACTGGCGGTGAGTTCCCGGAGTGAAGTGAACAGGTGGACCAAGTGGGTACGTGACCTATGAC  
 ATCCTGCAGTGCCTGAGGAC

**ACGCGT**ACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:** >RG202872 representing NM\_004994  
 Red=Cloning site Green=Tags(s)

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MSLWQPLVLVLLVLGCCFAAPRQRQSTLVLFPGLRNTL TDRQLAEEYL YRYGYTRVAEMRGESKSLGPA
LLLLQKQLSLPETGELDSATLKAMRTPRCGVPLDGRFQTFEGDLKWHHHNITYWIQNYSEDLPRVIDDA
FARAFALWSAVTPLTFTRVYSRDADIVIQFGVAEHGDGYPFDGKDLLAHAFPPGPGIQGDAHFDDELW
SLGKGVVPTFRFGNADGAACHFPFIFEGRSYSACTTDGRSDGYPWCSTTANYDTRDFGFCPSERLYTRD
GNADGKPCQFPFIFQGSYSACTTDGRSDGYRWCATTANYDRDKLFGFCPTRADSTVMGGNSAGELCVFP
FTFLGKEYSTCTSEGRGDRLWCATTSNFDSDDKKGWFCPDQGYSLFLVAAHEFGHALGLDHSSVPEALMY
PMYRFTEGPPLHKDDVNGIRHLYGPRPEPEPRPPTTTTPQPTAPPTVCPTGPPTVHPSERPTAGPTGPPS
AGPTGPPTAGPSTATTVPLSPVDDACNVNIFDAIAEIGNQLYLFKDGKYWRFSEGRGSRPQGPFLIADKW
PALPRKLDVFEPLSKLFFFSGRQVWVYTGASVLGPRRLDKLGLGADVAQVTGALRSRGMKLLFSGR
RLWRFVKAQMVDPRSASEVDRMFGVPLDTHDVFQYREKAYFCQDRFYWRVSSRSELNQVDQVGYVYTD
ILQCPED
  
```

TRTRPLE - GFP Tag - V

**Restriction Sites:** SgfI-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shutting:



**ACCN:** NM\_004994

**ORF Size:** 2121 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](#)

**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\\_004994.1](#)

**RefSeq Size:** 2387 bp

**RefSeq ORF:** 2124 bp

**Locus ID:** 4318

**UniProt ID:** [P14780](#)

**Cytogenetics:** 20q13.12

**Domains:** FN2, hemopexin, Peptidase\_M10, ZnMc, PT

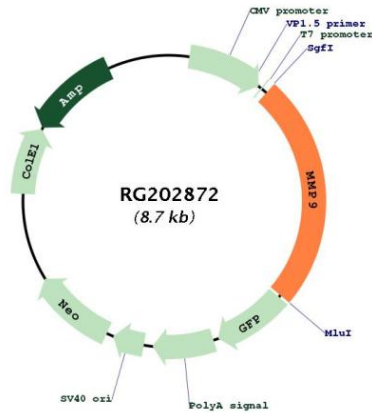
**Protein Families:** Druggable Genome, Protease

**Protein Pathways:** Bladder cancer, Leukocyte transendothelial migration, Pathways in cancer

**Gene Summary:**

Proteins of the matrix metalloproteinase (MMP) family are involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis. Most MMP's are secreted as inactive proproteins which are activated when cleaved by extracellular proteinases. The enzyme encoded by this gene degrades type IV and V collagens. Studies in rhesus monkeys suggest that the enzyme is involved in IL-8-induced mobilization of hematopoietic progenitor cells from bone marrow, and murine studies suggest a role in tumor-associated tissue remodeling. [provided by RefSeq, Jul 2008]

**Product images:**



Circular map for RG202872