

## Product datasheet for **SC117688**

### GMP Synthase (GMPS) (NM\_003875) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	GMP Synthase (GMPS) (NM_003875) Human Untagged Clone
Tag:	Tag Free
Symbol:	GMP Synthase
Synonyms:	GATD7
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL5</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



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**Fully Sequenced ORF:** >OriGene ORF within SC117688 sequence for NM\_003875 edited (data generated by NextGen Sequencing)

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ATGGCTCTGTGCAACGGAGACTCCAAGCTGGAGAATGCTGGAGGAGACCTTAAGGATGGC
CACCACCACTATGAAGGAGCTGTTGTCATTCTGGATGCTGGTGCAGTACGGGAAAGTC
ATAGACCGAAGAGTGAGGGAACCTGTTTCGTGCAGTCTGAAATTTTCCCCTTGGAAACCA
GCATTTGCTATAAAGGAACAAGGATCCGTGCTATTATCATCTCTGGAGGACCTAATTCT
GTGTATGCTGAAGATGCTCCCTGGTTTGATCCAGCAATATTCACCTATTGGCAAGCCTGTT
CTTGGAATTTGCTATGGTATGCAGATGATGAATAAGGTATTTGGAGGACTGTGCACAAA
AAAAGTGTGAGAGAAGATGGAGTTTTCAACATTAGTGTGGATAATACATGTTTCATTATTC
AGGGGCCCTCAGAAGGAAGAAGTTGTTTTGCTTACACATGGAGATAGTGTAGACAAAAGTA
GCTGATGGATTCAAGGTTGTGGCACGTTCTGGAACATAGTAGCAGGCATAGCAAATGAA
TCTAAAAAGTTATATGGAGCACAGTTCACCCTGAAGTTGGCCTTACAGAAAATGGAAAA
GTAATACTGAAGAATTTCTTTATGATATAGCTGGATGCAGTGGAACTTCACCGTGCAG
AACAGAGAAGTGTAGTGTATTGAGAGATCAAAGAGAGAGTAGGCACGTCAAAGTTTTG
GTTTTACTCAGTGGTGGAGTAGACTCAACAGTTTGTACAGCTTTGCTAAATCGTGTCTTG
AACCAAGAACAAGTCATTGCTGTGCACATTGATAATGGCTTTATGAGAAAACGAGAAAGC
CAGTCTGTTGAAGAGGCCCTCAAAAAGCTTGAATTCAGGTCAAAGTGATAAATGCTGCT
CATTCTTTCTACAATGGAACAACAACCTACCAATATCAGATGAAGATAGAACCCACCGG
AAAAGAATTAGCAAAACGTTAAATATGACCACAAGTCCTGAAGAGAAAAGAAAAATCATT
GGGGATACTTTTGTAAAGATTGCCAATGAAGTAATTGGAGAAAAGAACTTGAAACCAGAG
GAGGTTTTCTTCCCAAGGTAATTTACGGCCTGATCTAATTGAAAGTGCATCCCTTGTT
GCAAGTGGCAAAGCTGAACATCAAAACCCATCACAATGACACAGAGCTCATCAGAAAAG
TTGAGAGAGGAGGAAAAGTAATAGAACCCTGAAAGATTTTTCATAAAGATGAAGTGAGA
ATTTTGGCAGAGAACTTGGACTTCCAGAAGAGTTAGTTTCCAGGCATCCATTTCCAGGT
CCTGGCCTGGCAATCAGAGTAATATGTGCTGAAGAACCTTATATTTGTAAGGACTTTCCT
GAAACCAACAATATTTTAAAAATAGTAGCTGATTTTCTGCAAGTGTAAAAAGCCACAT
ACCCTATTACAGAGAGTCAAAGCCTGCACAACAGAAGAGGATCAGGAGAAGCTGATGCAA
ATTACCAGTCTGCATTCACTGAATGCCTTCTTGTGCCAATAAAAGTGTAGGTGTGCAG
GGTACTGTGCTTCTACAGTTACGTGTGTGGAATCTCCAGTAAAGATGAACCTGACTGG
GAATCACTTATTTTCTGGCTAGGCTTATACCTCGCATGTGTACAACGTTAACAGAGTT
GTTTATATATTTGCCCACCAGTTAAAGAACCTCTACAGATGTTACTCCACTTTCTTG
ACAACAGGGGTGCTCAGTACTTTACGCCAAGCTGATTTTGGAGCCATAACATTCTCAGG
GAGTCTGGGTATGCTGGGAAAATCAGCCAGATGCCGGTGATTTTGGACACCATTACATTTT
GATCGGGACCCACTTCAAAGCAGCCTTCATGCCAGAGATCTGTGGTTATTGCAACCTTT
ATTACTAGTGACTTCATGACTGGTATACCTGCAACACCTGGCAATGAGATCCCTGTAGAG
GTGGTATTAAGATGGTCACTGAGATTAAGAAGATTCCTGGTATTTCTCGAATTATGTAT
GACTTAACATCAAAGCCCCAGGAAGTACTGAGTGGGAGTAA

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Clone variation with respect to NM\_003875.2

**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM\_003875 unedited  
 GGTTGTACATTTTGTATACGACTCACTATAGGCGGCCGGAATTCGCACGAGGGCTGGT  
 CTTCTCTCCC CGCGCTGGGGCCCGCTCCGCTGCTGTTGCTCCATTCGGCGCTTTTC  
 TGGCGGCTGGCTCCTCTCCGCTGCCGGCTGCTCCTCGACCAGGCTCCTTCTCAACCTCA  
 GCCCGCGCGCGACCCCTCCGGCACCTCCCGCCCGTCTCGTACTGTCGCCGTACCG  
 CCGCGGCTCCGGCCCTGGCCCGATGGCTCTGTGCAACGGAGACTCCAAGCTGGAGAATG  
 CTGGAGGAGACCTTAAGGATGGCCACCACCACTATGAAGGAGCTGTTGTCATTCTGGATG  
 CTGGTGCTCAGTACGGGAAAGTCATAGACCGAAGAGTGAGGGAAGTGTTCGTGCAGTCTG  
 AAATTTTCCCCTTGAAAACACCAGCATTGCTATAAAGGAACAAGGATTCGGTGCTATTA  
 TCATCTCTGGAGGACCTAATTCTGTGTATGCTGAAGATGCTCCCTGGTTTGATCCAGCAA  
 TATTCATATTGGCAAGCCTGTTCTTGAATTTGCTATGGTATGCAGATGATGAATAAGG  
 TATTTGGAGTACTGTGCACAAAAAAGTGTGAGAGAAGTGGAGTTTTCAACATTAGTG  
 TGGATAATACATGTTTATTATTCAGGGCCCTCAGAAGGAAGAAGTTGTTTTGCTTACAC  
 ATGGAGATAGTGTAGACAAAGTAGCTGATGGATCAAGTTGTGGCACGTTCTGGAAACA  
 TAGTAGCAGGCATAGCANATGAATCTAAAAAGTTATATGGGAGCACAGTTNCACCCTGA  
 AGNTGGCCTTACANGAAATGGNNAAGTATACTGAAGAATTTCTTTATGATATAGCTGG  
 ATGCAGTGAACCTTCACGTGCAGAA

**3' Read Nucleotide Sequence:**

>OriGene 3' read for NM\_003875 unedited  
 GTACCGCGGCACGCAATCTAGTGTGAGTTTTTTTTTTTTTTTTTTTACTTTAATAGAACA  
 AGAAGTTTATTACTCCCCTCAGTAGTTCCTGGGGCTTTGATGTTAAGTCATACATAAT  
 TCGAGAAATACCAGGAATCTTCTTAATCTCAGTGACCATCTTTAATACCACCTCTACAGG  
 GATCTCATTGCCAGGTGTGTCAGGTATACCAGTCAAGTCACTAGTAATAAAGTTCCG  
 AATAACCACAGATCTCTGGCATGAAAGCTGCTTTTGAAGTGGTCCCGATCAAAATGTAA  
 TGGTGTCAAAATCACCGCATCTGGCTGATTTTCCAGCATACCCAGACTCCCTGAGAAT  
 GTTATGGGCCTCAAAATCAGCTTGGCGTAAAGTACTGAGCACCCCTGTTGTCAAGATAGT  
 GGGAGTAACATCTGTAAGAGGTTCTTTAACTGGTGGGCCAAATATATAAACAACCTGTT  
 AACGTTGTGACACATGCGATGTATAAGCCTAGCCAGATAATAAGTATTCCCAGTCAGGT  
 TCATCTTTACTGGAGATCCACACACGTAAGTGAAGAACGACAGTCACCCTGCACACCT  
 ACAGTTNTAATTGGCAGCAAGATAGCATTGAGTGAATGCAGACTGGTAATTTGCATCAGC  
 TTCTCCTGATCCTCTTCTAGTGTGCAAGCTTTGACTCTCTGTAATAAGGTATGTAGGCTT  
 TTTAACACTTGCAGAAAATCAGCTACTATTTTCAATATTGGTAGGTTTCAGGAAAATCCT  
 TACAATATAAAGTNTTCAGCACATATTACTCTGATTGCCANGCCAGGACCCTGGAATGGA  
 TGCCCTGGAACTAACTCTCTGGAAGTCCAGTTCTCTGCCCAAATTCACCTCATCTTAT  
 GAAAATCTTCAAAGTNCATTACTTTTCCCTCCTCTAACTTCTGATGGCTCTGGGCCA  
 TGGGATGGCCTTTGAGAGNTCACTCTTGCACCGGCAACAGGGATGCACCTNNCATANATC  
 AGGCCGTAAGACN

**Restriction Sites:**

NotI-NotI

**ACCN:**

NM\_003875

**Insert Size:**

2440 bp

**OTI Disclaimer:**

Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

**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).

<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_003875.2</a> , <a href="#">NP_003866.1</a>
<b>RefSeq Size:</b>	2457 bp
<b>RefSeq ORF:</b>	2082 bp
<b>Locus ID:</b>	8833
<b>UniProt ID:</b>	<a href="#">P49915</a>
<b>Cytogenetics:</b>	3q25.31
<b>Domains:</b>	GATase, GMP_synt_C
<b>Protein Families:</b>	Stem cell - Pluripotency
<b>Protein Pathways:</b>	Drug metabolism - other enzymes, Metabolic pathways, Purine metabolism
<b>Gene Summary:</b>	In the de novo synthesis of purine nucleotides, IMP is the branch point metabolite at which point the pathway diverges to the synthesis of either guanine or adenine nucleotides. In the guanine nucleotide pathway, there are 2 enzymes involved in converting IMP to GMP, namely IMP dehydrogenase (IMPD1), which catalyzes the oxidation of IMP to XMP, and GMP synthetase, which catalyzes the amination of XMP to GMP. [provided by RefSeq, Jul 2008]