

## Product datasheet for **RG224521**

### CMH1 (MYH7) (NM\_000257) Human Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	CMH1 (MYH7) (NM_000257) Human Tagged ORF Clone
Tag:	TurboGFP
Symbol:	MYH7
Synonyms:	CMD1S; CMH1; MPD1; MYHCB; SPMD; SPMM
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)
ORF Nucleotide Sequence:	>RG224521 representing NM_000257 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGGGAGATTCGGAGATGGCAGTCTTTGGGGCTGCCGCCCTACCTGCGCAAGTCAGAGAAGGAGCGGC  
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AGCGGACCGACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>RG224521 representing NM\_000257

Red=Cloning site Green=Tags(s)

MGDSEMAVFGAAAPYLRKSEKERLEAQRPFDLKDVFPDDKQEFVKAKIVSREGGKVTAEIYKTVT  
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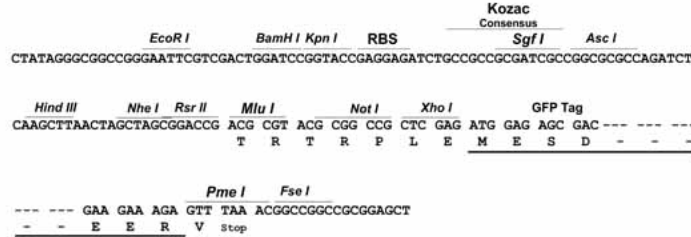
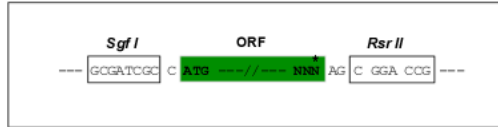
SGPTRRRLE - GFP Tag - V

**Restriction Sites:**

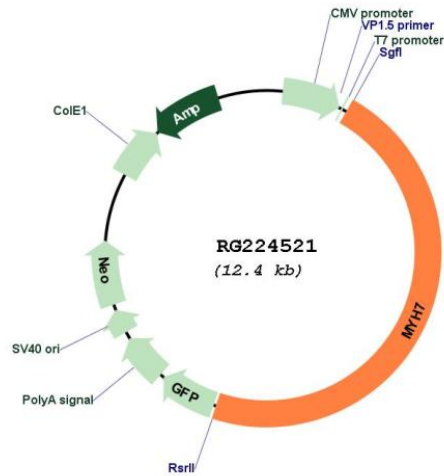
SgfI-RsrII

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



ACCN: NM\_000257

ORF Size: 5805 bp

<b>OTI Disclaimer:</b>	<p>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 <a href="mailto:custsupport@origene.com">custsupport@origene.com</a> or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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></p>
<b>OTI Annotation:</b>	<p>This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.</p>
<b>Components:</b>	<p>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).</p>
<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_000257.4</a>
<b>RefSeq Size:</b>	6044 bp
<b>RefSeq ORF:</b>	5808 bp
<b>Locus ID:</b>	4625
<b>UniProt ID:</b>	<a href="#">P12883</a>
<b>Cytogenetics:</b>	14q11.2
<b>Domains:</b>	IQ, myosin_head, Myosin_tail, M, Myosin_N
<b>Protein Pathways:</b>	Cardiac muscle contraction, Dilated cardiomyopathy, Hypertrophic cardiomyopathy (HCM), Tight junction, Viral myocarditis

**Gene Summary:**

Muscle myosin is a hexameric protein containing 2 heavy chain subunits, 2 alkali light chain subunits, and 2 regulatory light chain subunits. This gene encodes the beta (or slow) heavy chain subunit of cardiac myosin. It is expressed predominantly in normal human ventricle. It is also expressed in skeletal muscle tissues rich in slow-twitch type I muscle fibers. Changes in the relative abundance of this protein and the alpha (or fast) heavy subunit of cardiac myosin correlate with the contractile velocity of cardiac muscle. Its expression is also altered during thyroid hormone depletion and hemodynamic overloading. Mutations in this gene are associated with familial hypertrophic cardiomyopathy, myosin storage myopathy, dilated cardiomyopathy, and Laing early-onset distal myopathy. [provided by RefSeq, Jul 2008]