

## Product datasheet for **MG222309**

### Rorc (NM\_011281) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Rorc (NM_011281) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Rorc
Synonyms:	Nr1f3; RORgamma; Thor; TOR
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG222309 representing NM\_011281  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGGACAGGGCCCCACAGAGACACCACCGACATCTCGGGAGCTGCTGGCTGCAAAGAAGACCCACACCT  
 CACAAATTGAAGTGATCCCTTGCAAGATCTGTGGGACAAGTCATCTGGGATCCACTACGGGTTATCAC  
 CTGTGAGGGGTGCAAGGGCTTCTCCGCCGACAGCAGTGTAAATGTGGCCTACTCCTGCACGCGTCAG  
 CAGAACTGCCCCATTGACCGAACAGCCGCAACCGATGCCAGCATTGCCGCTGCAGAAAGTGCCTGGCTC  
 TGGGATGTCCCGAGATGCTGTCAAGTTTGGCCGAATGTCCAAGAAGCAGAGGGACAGTCTACATGCAGA  
 AGTGCAGAAACAAGTGAACAGCAGCAGCAACAGGAACAAGTGGCAAGACTCCTCCAGCTGGGAGCCGC  
 GGAGCAGACACTTACATACACTTTAGGGCTCTCAGATGGGCAGCTACCACTGGGCGCCTCACCTGACC  
 TACCCGAGGCCTCTGCTGTCCCTGGCTCCTGAGAGCCTCAGGCTCTGGCCACCATATTCCAATAC  
 CTTGGCCAAAACAGAGGTCCAGGGGCCCTCCTGCCACCTTGAGTATAGTCCAGAACGAGGCAAAGCTGAA  
 GGACAGAGACAGCATCTATAGCACTGACGGCAACTTACTCTTGAAGATGTGGACTTCGTTTTGAGGAAA  
 CCAGGCATCCTGAACTTGGGGAACAGAACAGGGTCCAGACAGCCACTGCATTCCAGTTTCTGCAGTGC  
 CCCAGAGGTACCATATGCCTCTCTGACAGACATAGAGTACCTGGTACAGAATGTCTGCAAGTCTTCCGA  
 GAGACATGCCAGCTGCGACTGGAGGACCTTCTACGGCAGCGCACCAACCTCTTTTACGGGAGGAGGTGA  
 CCAGCTACCAGAGGAAGTCAATGTGGGAGATGTGGGAGCGCTGTGCCACCACCTCACTGAGGCCATTCA  
 GTATGTGGTGGAGTTTCCAAGCGGCTTTCAGGCTTCAAGGAGCTGTGCCAGAATGACCAGATCATACTA  
 CTGAAAGCAGGAGCAATGGAAGTCGTCTAGTCAAGAATGTGCAGGGCCTACAATGCCAACACACACAG  
 TCTTTTTGAAGGCAAAACGGTGGTGTGGAGCTGTTTTGAGCCTTGGGCTGCAGCGAGCTCATCAGCTC  
 CATATTTGACTTTTTCCCACTTCTCAGCGCCTGTGTTTTCTGAGGATGAGATTGCCCTCTACAGCGCC  
 CTGTTTCTCATCAATGCCAACCGTCTGGGCTCCAAGAGAAGAGGAGAGTGAACATCTGCAATACAATT  
 TGGAACTGGCTTTCATCATCTCTGCAAGACTCATCGACAAGGCTCCTAGCCAAGCTGCCACCCAA  
 AGGAAAACCTCCGGAGCCTGTGCAGCCAACATGTGGAAAAGCTGCAGATCTTCCAGCACCTCCACCCCATC  
 GTGGTCCAAGCCGCTTCCCTCCACTCTATAAGGAACTTTCAGCACTGATGTTGAATCCCTGAGGGGC  
 TGTCAAAG

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>MG222309 representing NM\_011281  
 Red=Cloning site Green=Tags(s)

MDRAPQRHHRTSRELLAAKKTHTSQIEVIPCKICGDKSSGIHYGVITCEGCKGFFRRSQQCNVAYSCTRQ  
 QNCPIDRTSRNRCQHRLQKCLALGMSRDAVKFGRMSKKQRDSLHAEVQKQLQQQQQEQVAKTPPAGSR  
 GADTLTYTLGLSDGQLPLGASPDLEASACPPGLLRASGSGPPYSNTLAKTEVQGASCHLEYSPEKAE  
 GRDSIYSTDGQLTLGRCGLRFEETRHPHELGEPEQGPDSHCIPSFCSAPEVPYASLTDIEYLVQNVCKSFR  
 ETCQLRLEDLLRQRTNLF SREEVTSYQRKSMWEMWERCAHHLTEAIQYVVEFAKRLSGFMELCQNDQIIL  
 LKAGAMEVVLVRMCRAYNANNHTVFFEGKYGGVELFRALGCELISSIFDFSHFLSALCFSEDEIALYTA  
 LVLINANRPLQEKRRVEHLQYNLELAFHHHLCKTHRQGLLAKLPPKGKLRSLCSQHVEKLQIFQHLHPI  
 VVQAAPPLYKELFSTDVESPEGLSK

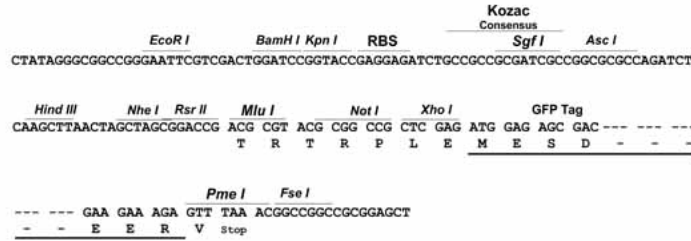
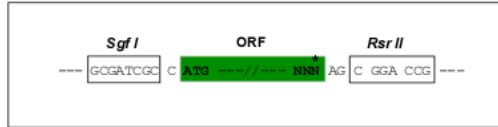
SGP**TRRRLE** - GFP Tag - V

**Restriction Sites:**

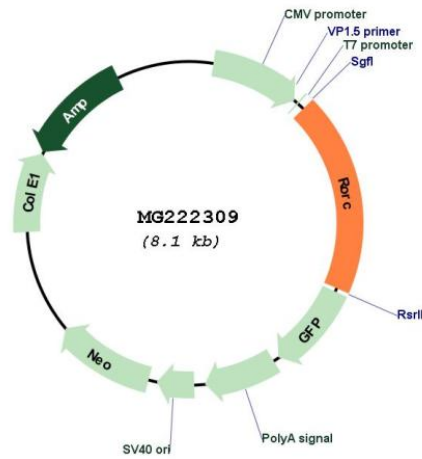
Sgfl-RsrII

Cloning Scheme:

Cloning sites used for ORF Shuttling:



Plasmid Map:



<b>ACCN:</b>	NM_011281
<b>ORF Size:</b>	1548 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_011281.3</a>
<b>RefSeq Size:</b>	2503 bp
<b>RefSeq ORF:</b>	1551 bp
<b>Locus ID:</b>	19885
<b>UniProt ID:</b>	<a href="#">P51450</a>
<b>Cytogenetics:</b>	3 F2.1

**Gene Summary:**

Nuclear receptor that binds DNA as a monomer to ROR response elements (RORE) containing a single core motif half-site 5'-AGGTCA-3' preceded by a short A-T-rich sequence. Key regulator of cellular differentiation, immunity, peripheral circadian rhythm as well as lipid, steroid, xenobiotics and glucose metabolism. Considered to have intrinsic transcriptional activity, have some natural ligands like oxysterols that act as agonists (25-hydroxycholesterol) or inverse agonists (7-oxygenated sterols), enhancing or repressing the transcriptional activity, respectively. Recruits distinct combinations of cofactors to target gene regulatory regions to modulate their transcriptional expression, depending on the tissue, time and promoter contexts (PubMed:17666523, PubMed:19381306, PubMed:19965867, PubMed:21853531, PubMed:22789990, PubMed:23723244). Regulates the circadian expression of clock genes such as CRY1, ARNTL/BMAL1 and NR1D1 in peripheral tissues and in a tissue-selective manner (PubMed:22753030). Competes with NR1D1 for binding to their shared DNA response element on some clock genes such as ARNTL/BMAL1, CRY1 and NR1D1 itself, resulting in NR1D1-mediated repression or RORC-mediated activation of the expression, leading to the circadian pattern of clock genes expression. Therefore influences the period length and stability of the clock (PubMed:22753030). Involved in the regulation of the rhythmic expression of genes involved in glucose and lipid metabolism, including PLIN2 and AVPR1A. Negative regulator of adipocyte differentiation through the regulation of early phase genes expression, such as MMP3. Controls adipogenesis as well as adipocyte size and modulates insulin sensitivity in obesity. In liver, has specific and redundant functions with RORA as positive or negative modulator of expression of genes encoding phase I and Phase II proteins involved in the metabolism of lipids, steroids and xenobiotics, such as SULT1E1 (PubMed:21853531). Also plays also a role in the regulation of hepatocyte glucose metabolism through the regulation of G6PC and PCK1. Regulates the rhythmic expression of PROX1 and promotes its nuclear localization.[UniProtKB/Swiss-Prot Function]