

## Product datasheet for **SC124066**

### MTOR (NM\_004958) Human Untagged Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** MTOR (NM\_004958) Human Untagged Clone  
**Tag:** Tag Free  
**Symbol:** MTOR  
**Synonyms:** FRAP; FRAP1; FRAP2; RAFT1; RAPT1; SKS  
**Mammalian Cell Selection:** None  
**Vector:** pCMV6-XL4  
**E. coli Selection:** Ampicillin (100 ug/mL)

**Fully Sequenced ORF:** >OriGene ORF sequence for NM\_004958 edited  
GGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTCA  
GAATTTTGTAAATACGACTCACTATAGGGCGGCCGGAATTCGGCACGAGGGGGCCTGAAG  
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 AAGTTGCATATTTTGTCTGACTAGGTGCTCTTATAATATTATGGGGTGGAGGGGGT

**5' Read Nucleotide Sequence:**

>OriGene 5' read for NM\_004958 unedited  
 NGGTACCGCCATAATTGTAAACAGACCTCACTCAAGGCGGCCCGCAACNCGCACCGGGG  
 GGCTGAAGCGCGGTACCCGGTCTGGCGGCGGAGCTGAGGCCTTGGCCGAAGCCGCG  
 CGAACCTCAGGGCAAGATGCTTGAACCGGACCTGCCCGCCACCACCCTGCCACCAC  
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 TGTGGCCGTGTGGGACCCAAACAGGCCATCCGTGAGGGAGCTGTAGCCGCCCTTCGTGC  
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**3' Read Nucleotide Sequence:**

>OriGene 3' read for NM\_004958 unedited  
 GCGTTCAACTTACAGGCCGGAGAGGCACTGGGGAGGGGTACAGGGATGCCACCCGGGA  
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 TTCTTCCATCACAAGTACTTATGATGAGTCTTCTGTGAGTTAAGTCAAAACCCGATTT  
 CTAAGTT

<b>Restriction Sites:</b>	Please inquire
<b>ACCN:</b>	NM_004958
<b>Insert Size:</b>	8700 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>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_004958.2</a> , <a href="#">NP_004949.1</a>
<b>RefSeq Size:</b>	8680 bp
<b>RefSeq ORF:</b>	7650 bp
<b>Locus ID:</b>	2475
<b>UniProt ID:</b>	<a href="#">P42345</a>
<b>Cytogenetics:</b>	1p36.22
<b>Protein Families:</b>	Druggable Genome, Protein Kinase
<b>Protein Pathways:</b>	Acute myeloid leukemia, Adipocytokine signaling pathway, ErbB signaling pathway, Glioma, Insulin signaling pathway, mTOR signaling pathway, Pathways in cancer, Prostate cancer, Type II diabetes mellitus

**Gene Summary:**

The protein encoded by this gene belongs to a family of phosphatidylinositol kinase-related kinases. These kinases mediate cellular responses to stresses such as DNA damage and nutrient deprivation. This kinase is a component of two distinct complexes, mTORC1, which controls protein synthesis, cell growth and proliferation, and mTORC2, which is a regulator of the actin cytoskeleton, and promotes cell survival and cell cycle progression. This protein acts as the target for the cell-cycle arrest and immunosuppressive effects of the FKBP12-rapamycin complex. Inhibitors of mTOR are used in organ transplants as immunosuppressants, and are being evaluated for their therapeutic potential in SARS-CoV-2 infections. Mutations in this gene are associated with Smith-Kingsmore syndrome and somatic focal cortical dysplasia type II. The ANGPTL7 gene is located in an intron of this gene. [provided by RefSeq, Aug 2020]