

## Product datasheet for **MC226640**

### **MIst8 (NM\_001252465) Mouse Untagged Clone**

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** MIst8 (NM\_001252465) Mouse Untagged Clone  
**Tag:** Tag Free  
**Symbol:** MIst8  
**Synonyms:** 0610033N12Rik; AA409454; AI505104; AI851821; Gbl  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-Entry (PS100001)  
**E. coli Selection:** Kanamycin (25 ug/mL)  
**Fully Sequenced ORF:** >MC226640 representing NM\_001252465  
**Red**=Cloning site **Blue**=ORF **Orange**=Stop codon

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGATCGCC**

ATGTATGATCTCAACTCCAATAACCCCAACCCCATCATCAGTTATGACGGAGTCAGTAAGAACATTGCAT  
CAGTGGGCTTTCACGAGGATGGTCGCTGGATGTATACAGGTGGCGAGGACTGCACAGCTCGCATCTGGGA  
CCTCAGGTCCCGAACTTGCAGTGTGAGCGTATCTTCAGGTGAACGCACCCATTAATTGCGTGTGTCTG  
CATCCCAACCGAGCAGAACTCATTGTGGGTGATCAGAGCGGTGCTATCCACATCTGGGACCTGAAGACAG  
ACCACAATGAGCAGCTGATTCCCGAGCCTGAGTCTTCCATCAGTCTGCTCACATCGACCCAGATGCTAG  
CTACATGGCAGCCGTCATAGTCCCGAACTGCTATGTCTGGAACCTGACAGGGGGCATTGGTGACGAT  
GTGACTCAGCTCATCCCTAAGACCAAGATCCCAGCCCATACACGCTATGCCCTGCAATGCCGCTTCAGCC  
CTGATTCCACGCTTCTTGCCACCTGTTCAGCTGACCAGACATGAAAACTGGAGGACATCCAACCTCTC  
CCTGATGACAGAGCTTAGCATCAAGAGTAGTAACCCTGGAGAGTCATCCCGTGGCTGGATGTGGGGCTGT  
GCCTTCTCAGGGGATTCCAGTACATTGTACAGCTTCTTCTGACAACCTAGCCCGGCTCTGGTGTGTAG  
AGACTGGAGAAATCAAGAGAGATATGGTGGCCATCAGAAAGCTGTCGTCTGCTTGGCCTCAATGACAG  
TGTGCTGGGT**AG**

**ACGCGT**ACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT  
ACAAGGATGACGACGATAAGGTTTAA

**Restriction Sites:** SgfI-MluI  
**ACCN:** NM\_001252465  
**Insert Size:** 783 bp



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<b>OTI Disclaimer:</b>	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).
<b>OTI Annotation:</b>	Clone contains native stop codon, and expresses the complete ORF without any c-terminal tag.
<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>	<u>NM_001252465.1</u> , <u>NP_001239394.1</u>
<b>RefSeq Size:</b>	3150 bp
<b>RefSeq ORF:</b>	783 bp
<b>Locus ID:</b>	56716
<b>UniProt ID:</b>	<u>Q9DCJ1</u>
<b>Cytogenetics:</b>	17 A3.3

**Gene Summary:**

Subunit of both mTORC1 and mTORC2, which regulates cell growth and survival in response to nutrient and hormonal signals. mTORC1 is activated in response to growth factors or amino acids. Growth factor-stimulated mTORC1 activation involves a AKT1-mediated phosphorylation of TSC1-TSC2, which leads to the activation of the RHEB GTPase that potentially activates the protein kinase activity of mTORC1. Amino acid-signaling to mTORC1 requires its relocalization to the lysosomes mediated by the Ragulator complex and the Rag GTPases. Activated mTORC1 up-regulates protein synthesis by phosphorylating key regulators of mRNA translation and ribosome synthesis. mTORC1 phosphorylates EIF4EBP1 and releases it from inhibiting the elongation initiation factor 4E (eIF4E). mTORC1 phosphorylates and activates S6K1 at 'Thr-389', which then promotes protein synthesis by phosphorylating PDCD4 and targeting it for degradation. Within mTORC1, LST8 interacts directly with MTOR and enhances its kinase activity. In nutrient-poor conditions, stabilizes the MTOR-RPTOR interaction and favors RPTOR-mediated inhibition of MTOR activity. mTORC2 is also activated by growth factors, but seems to be nutrient-insensitive. mTORC2 seems to function upstream of Rho GTPases to regulate the actin cytoskeleton, probably by activating one or more Rho-type guanine nucleotide exchange factors. mTORC2 promotes the serum-induced formation of stress-fibers or F-actin. mTORC2 plays a critical role in AKT1 'Ser-473' phosphorylation, which may facilitate the phosphorylation of the activation loop of AKT1 on 'Thr-308' by PDK1 which is a prerequisite for full activation. mTORC2 regulates the phosphorylation of SGK1 at 'Ser-422'. mTORC2 also modulates the phosphorylation of PRKCA on 'Ser-657'. [UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (4) lacks two internal exons and initiates translation at a downstream, in-frame start codon, compared to variant 1. The encoded isoform (2) has a shorter N-terminus, compared to isoform 1. Sequence Note: This RefSeq record was created from transcript and genomic sequence data to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on transcript alignments.