

Product datasheet for **KN510148**

Mlst8 Mouse Gene Knockout Kit (CRISPR)

Product data:

Product Type:	Knockout Kits (CRISPR)
Format:	2 gRNA vectors, 1 linear donor
Donor DNA:	EF1a-GFP-P2A-Puro
Symbol:	Mlst8
Locus ID:	56716



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Components:
KN510148G1, Mlst8 gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)

KN510148G2, Mlst8 gRNA vector 2 in pCas-Guide CRISPR vector (GE100002)

KN510148D, Linear donor DNA containing LoxP-EF1a-tGFP-P2A-Puro-LoxP:

The sequence below is cassette sequence only. The linear donor DNA also contains proprietary target sequence.

LoxP-EF1a-tGFP-P2A-Puro-LoxP (2739 bp)

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ATAACTTCGT ATAATGTATG CTATACGAAG TTATCGTGAG GCTCCGGTGC CCGTCAGTGG GCAGAGCGCA
CATCGCCAC AGTCCCGAG AAGTTGGGG GAGGGTTCGG CAATTGAACC GGTGCCTAGA GAAGGTGGCG
CGGGTAAC TGGGAAAGTG ATGTCGTGTA CTGGCTCCG CTTTTCCCG AGGGTGGGG AGAACCGTAT
ATAAGTCAG TAGTCGCCG GAACGTTCT TTTCCGAAC GGTTCGCCG CAGAACACAG GTAAGTGCCG
TGTGTGGTTC CCGCGGGCT GCCTCTTTA CGGGTTATG CCCTTGCGTG CCTTGAATTA CTTCCACCTG
GCTGCAGTAC GTGATTCTG ATCCCGAGCT TCGGGTTGGA AGTGGGTGG AGAGTTCGAG GCCTTGCGCT
TAAGGAGCCC CTTCGCCTG TGCTTGAGT GAGGCCTGG CTGGGCGTG GGGCCCGCG GTGCGAATCT
GGTGGCACCT TCGCGCCTG CTCGCTGCT TCGATAAGT TCTAGCCATT TAAAATTTT GATGACCTGC
TGCAGCGCT TTTTCTGGC AAGATAGTCT TGTAATGCG GGCCAAGATC TGCACACTGG TATTTTCGTT
TTTGGGGCCG CGGGCGGCA CGGGGCCCGT GCGTCCCAGC GCACATGTTC GGCAGGCGG GGCCTGCGAG
CGCGGCCACC GAGAATCGGA CGGGGTAGT CTCAAGCTGG CCGGCCTGCT CTGGTGCCTG GCCTCGCGCC
GCCGTGTATC GCCCGCCCT GGGCGGAAG GCTGGCCCG TCGGCACCAG TTGCGTGAGC GGAAAGATGG
CCGTTCCCG GCCCTGTGC AGGGAGCTCA AAATGGAGGA CGCGCGCTC GGGAGAGCGG GCGGGTGAAGT
CACCCACACA AAGGAAAAG GCCTTCCGT CCTCAGCCG CGCTTCATGT GACTCCACGG AGTACCGGGC
GCCCTCCAG CACCTCGAT AGTTCTCGAG CTTTGGAGT ACGTCGTCT TAGTTGGGG GGAGGGGTTT
TATGCGATGG AGTTTCCCA CACTGAGTGG GTGAGACTG AAGTTAGGCC AGCTTGGCAG TTGATGTAAT
TCTCCTTGG AATTTGCCCT TTTGAGTTG GATCTTGGT CATTCTCAAG CCTCAGACAG TGGTTCAAAG
TTTTTTCTT CCATTTCAAG TGTCGTGAAT GGAGAGCGAC GAGAGCGGCC TGCCCGCCAT GGAGATCGAG
TGCCGCATCA CCGGCACCCT GAACGGCGTG GAGTTCGAGC TGGTGGGCGG CGGAGAGGGC ACCCCCGAGC
AGGGCCGCAT GACCAACAAG ATGAAGAGCA CCAAAGGCGC CCTGACCTTC AGCCCTACC TGCTGAGCCA
CGTGATGGC TACGGCTTCT ACCACTTCG CACCTACCC AGCGGCTACG AGAACCCCTT CCTGCACGCC
ATCAACAACG GCGGCTACAC CAACACCCG ATCGAGAAGT ACGAGGACGG CGGCGTGCTG CACGTGAGCT
TCAGCTACCG CTACGAGGCC GGCCGCGTGA TCGGCGACTT CAAGGTGATG GGCACCGGCT TCCCGGAGGA
CAGCGTGATC TTCACCGACA AGATCATCCG CAGCAACGCC ACCGTGGAGC ACCTGCACCC CATGGCGGAT
AACGATCTGG ATGGCAGCTT CACCCGACC TTCAGCCTGC GCGACGGCGG CTACTACAGC TCCGTGGTGG
ACAGCCACAT GCACTTCAAG AGCGCCATCC ACCCCAGCAT CCTGCAGAAC GGGGGCCCA TGTTCCCTT
CCGCCCGTG GAGGAGGATC ACAGCAACAC CGAGTGGGG ATCGTGGAGT ACCAGCACGC CTTCAAGACC
CCGGATGCAG ATGCCGGTGA AGAAAGAGGA AGCGGAGCTA CTAACCTCAG CCTGCTGAAG CAGGCTGGAG
ACGTGGAGGA GAACCTGGA CCTATGACCG AGTACAAGCC CACGGTGC GCCTGCCACC GCGACGACGT
CCCCAGGGCC GTACGCACC TCGCCGCCG GTTCGCCGAC TACCCGCCA CGGCCACAC CGTCGATCCG
GACCGCCACA TCGAGCGGGT CACCGAGCTG CAAGAAGCTC TCCTCACGG CGTCGGGCTC GACATCGGCA
AGGTGTGGT CGCGGACGAC GGCGCCGCG TGGCGGTCTG GACCAGCCG GAGAGCGTGC AAGCGGGGGC
GGTGTTCGCC GAGATCGGCC CGCGCATGGC CGAGTTGAGC GGTTCGGGC TGGCCCGCA GCAACAGATG
GAAGCCCTCC TGGCGCCGA CCGGCCAAG GAGCCCGCT GTTCTCTGG CACCCTCGG GTCTCGCCG
ACCACCAGG CAAGGTCTG GGCAGCCCG TCGTGTCCC CGGAGTGGAG GCGGCCGAGC GCGCCGGGT
GCCCGCTTCT CTGGAGACT CCGCGCCCG CAACCTCCC TTCTACGAG GGCTCGGCT CACCGTCACC
GCCGACGTC AGGTGCCGA AGGACCGCG ACCTGGTGA TGACCCGCA GCCCGGTGCC TGAAACTTGT
TTATTGCAGC TTATAATGGT TACAAATAA GCAATAGCAT CACAAATTC ACAAATAAG CATTTTTTTC
ACTGCATTCT AGTTGTGGT TGTCCAACT CATCAATGA TCTTAATAAC TTCGTATAAT GTATGCTATA CGAAGTTAT
    
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Disclaimer:	These products are manufactured and supplied by OriGene under license from ERS. The kit is designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the experimental process.
RefSeq:	NM_001252463 , NM_001252464 , NM_001252465 , NM_019988
UniProt ID:	Q9DCJ1
Synonyms:	0610033N12Rik; AA409454; AI505104; AI851821; Gbl
Summary:	<p>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]</p>

Product images:

