

## Product datasheet for **SC116645**

### Lysyl tRNA synthetase (KARS) (NM\_005548) Human Untagged Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Lysyl tRNA synthetase (KARS) (NM_005548) Human Untagged Clone
Tag:	Tag Free
Symbol:	Lysyl tRNA synthetase
Synonyms:	CMTRIB; DEAPLE; DFNB89; KARS; KARS2; KRS; LEPID
Mammalian Cell Selection:	None
Vector:	<u><a href="#">pCMV6-XL5</a></u>
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

**Fully Sequenced ORF:** >OriGene ORF within SC116645 sequence for NM\_005548 edited (data generated by NextGen Sequencing)

```

ATGGCGGCCGTGCAGGCGGCCGAGGTGAAAAGTGGATGGCAGCGAGCCGAAACTGAGCAAG
AATGAGCTGAAGAGACGCCTGAAAGCTGAGAAGAAAGTAGCAGAGAAGGAGGCCAAACAG
AAAGAGCTCAGTGAGAAACAGCTAAGCCAAGCCACTGCTGCTGCCACCAACCACACCACT
GATAAATGGTGTGGGTCTGAGGAAGAGAGCGTGGACCCAAATCAATACTACAAAAATCCGC
AGTCAAGCAATTCATCAGCTGAAGGTCAATGGGGAAGACCCATACCCACACAAGTTCCAT
GTAGACATCTCACTCACTGACTTCATCCAAAAATATAGTCACCTGCAGCCTGGGGATCAC
CTGACTGACATCACCTTAAAGGTGGCAGGTAGGATCCATGCCAAAAAGAGCTTCTGGGGGA
AAGCTCATCTTCTATGATCTTCGAGGAGAGGGGGTGAAGTTGCAAGTCATGGCCAATTCC
AGAAATTATAAATCAGAAGAAGAATTTATTCATATTAATAACAAACTGCGTCGGGGAGAC
ATAATTGGAGTTCAGGGGAATCCTGGTAAAACCAAGAAGGGTGAAGTGCATCATTCCG
TATGAGATCACACTGCTGTCCCTGTTTGCATATGTTACCTCATCTTCACTTTGGCCTC
AAAGACAAGGAAACAAGGTATCGCCAGAGATACTTGGACTTGATCCTGAATGACTTTGTG
AGGCAGAAATTTATCATCCGCTCTAAGATCATCATATATAAGAAGTTTCTTAGATGAG
CTGGGATTCTAGAGATTGAAACTCCCATGATGAACATCATCCAGGGGGAGCCGTGGCC
AAGCCTTTCATCACTTATCACAACGAGCTGGACATGAAGTTATATGAGAATTGCTCCA
GAAGTCTATCATAAGATGCTTGTGGTGGTGGCATCGACCGGGTTATGAAATTGGACGC
CAGTTCGGGAATGAGGGGATTGATTTGACGCACAATCCTGAGTTCACCACCTGTGAGTTC
TACATGGCCTATGCAGACTATCAGATCTCATGGAAATCACGGAGAAGATGGTTTCAGGG
ATGGTGAAGCATATTACAGGCAGTTACAAGGTCACCTACCACCCAGATGGCCAGAGGGC
CAAGCCTACGATGTTGACTTCACCCACCCTTCCGGCGAATCAACATGGTAGAAGAGCTT
GAGAAAGCCCTGGGGATGAAGTGGCAGAAACGAACCTTTTGAAGTGAAGAACTCGC
AAAATTTGATGATATCTGTGTGGCAAAAGCTGTTGAATGCCCTCCACCTCGGACCACA
GCCAGGCTCCTTGACAAGCTTGTGGGGAGTTCCTGGAAGTGAAGTGCATCAATCCTACA
TTCATCTGTGATACCCACAGATAATGAGCCCTTTGGCTAAATGGCACCCTCTAAAGAG
GGTCTGACTGAGCGCTTTGAGCTGTTTGTGATGAAGAAAGAGATATGCAATGCGTATACT
GAGCTGAATGATCCCATGCGGCAGCGGCAGCTTTTGAAGAACAGGCCAAGGCCAAGGCT
GCAGGTGATGATGAGGCCATGTTTATAGATGAAAACCTTCTGACTGCCCTGGAATATGGG
CTGCCCCCAGACTGGCTGGGGCATGGGCATTGATCGAGTCGCCATGTTTCTCACGGAC
TCCAACAACATCAAGGAAGTACTTCTGTTTCTGCCATGAAACCCGAAGACAAGAAGGAG
AATGTAGCAACCACTGATACACTGGAAAGCACAACAGTTGGCACTTCTGTCTAG
    
```

Clone variation with respect to NM\_005548.2

**5' Read Nucleotide Sequence:**

```

>OriGene 5' read for NM_005548 unedited
TTCAAATTTTGTAAATACGACTCACTATAGGGCGGCCGATTCGGCACGAGGTAATATCC
TCCTTACTTTTGGTTCGGGCCCTCCGGGAAGAGCGGCCGTGCAGCGGCCGAGGTGAAA
GTGGATGGCAGCGAGCCGAAACTGAGCAAGAATGAGCTGAAGAGACGCCTGAAAGCTGAG
AAGAAAGTAGCAGAGAAGGAGGCCAAACAGAAAGAGCTCAGTGAGAAACAGCTAAGCCAA
GCCACTGCTGCTGCCACCAACCACCACTGATAATGGTGTGGTCTGAGGAAGAGAGC
GTGGACCCAAATCAATACTACAAAATCCGCAGTCAAGCAATTCATCAGCTGAAGGTCAAT
GGGGAAGACCCATACCCACACAAGTTCCATGTAGACATCTCACTCACTGACTTCATCCAA
AAATATAGTCACCTGCAGCCTGGGGATCACCTGACTGACATCACCTTAAAGGTGGCAGGT
AGGATCCATGCCAAAAGAGCTTCTGGGGAAAGCTCATCTTCTATGATCTTCGAGGAGAG
GGGGTGAAGTTGCAAGTCATGGCCAATTCAGAAATTATAAATCAGAAGAAGAATTTATT
CATATTAATAACAAACTGCGTCGGGGAGACATAATTGGAGTTCAGGGGAATCCTGGTAAA
ACCAAGAAGGGTGAAGTGAAGTCAATCCGATGAGATCACACTGCTGTCNTCCCTGTTG
CATATGTTACCTCATCTTCACTTTGGCCNTCAAGACAGGGAAACANGGTATCGCCAGAGA
TACTTGGACTTGATCCTGAATGACTTTGTGAGGCAGAAATATCATCCGCTCTAAGACAT
CACATATATAAGAAGTTNCTTAGATGAGCTGGGATTCCTAGAGATGAACTCCCATGATG
ACATCATCCCAGGGNACGCCGTGGCCAC
    
```

<b>3' Read Nucleotide Sequence:</b>	>OriGene 3' read for NM_005548 unedited AGAGTCGAGTTTTTTTTTTTTTTTTTTGGTAACAGGATTA AAAAGAAATTTTAAATTCCT TGTCTCTCTTCTGATGGCTGAACAGA AACTGCGGTGTCAAATGGAAAGCAGCACACAAGAA TTCCCTTG CAGACCTTGATCTTTCGCAGAAATGCAAAGACGCCTGAGTTATACA AACTTGC AATTATTATTTCTAGACAGAAGTGCCAACTGTTGTGCTTCCAGTGTATCAGTGGTTGC TACATTCTCCTTCTTGTCTTCGGGTTTCATGGCAGGAAACAGAAGTACTTCCTTGATGTT GTTGGAGTCCGTGAGAAACATGGCGACTCGATCAATGCCATGCCCCAGCCAGCTGTGGG GGGCAGCCCATATTCAGGGCAGTACAGAAGTTTTCATCTATGAACATGGCCTCATCATC ACCTGCAGCCTTGGCCTTGGCCTGTTCTTCAAAAAGCTGCCGCTGCCGCATGGGATCATT CAGCTCAGTATACGCATTGCATATCTCTTCTTTCATGACAAAACAGCTCAAAGCGCTCAGT CAGACCTCTTTAGAGCCGTGCCATTTAGCCAAAGGGCTCATTATCTGTGGGTGATCACA GATGAATGTANGATTGATGCAAGTACTTCCCAGAACTCCCAACAAGCTTGCAAGAGCC TGGCTGTGGTCGAGGGGAGGCATCCACAGCTTTTGCCAACAGATATATCAAAAATTTGC GAGTTCCTCAGTTC AAGGAGGTNGTCTTGGAGTTAATCCAAGGCTTTTTAAGCTTTTA CATGTGATTCCCAGGTGGGGGAATAACATGGAGGCTGGCCTTTGGCCCTCGGTGGAAG GACCTGAACGCCGAAAGCTTACCTCCC GAACCTTTTTCGGATTATGAACGGAATCCGC AGCCTTAAACCCGGGGACCGGTTGGGAAAACCTTTTGG AAGGCCTTATAACCCGGAG CCCCCAACTTTGAAGCTGGGACCTTTAT
<b>Restriction Sites:</b>	NotI-NotI
<b>ACCN:</b>	NM_005548
<b>Insert Size:</b>	2050 bp
<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>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_005548.1</a> , <a href="#">NP_005539.1</a>
<b>RefSeq Size:</b>	1997 bp
<b>RefSeq ORF:</b>	1794 bp
<b>Locus ID:</b>	3735
<b>UniProt ID:</b>	<a href="#">Q15046</a>
<b>Cytogenetics:</b>	16q23.1
<b>Domains:</b>	tRNA-synt_2, tRNA_anti

**Protein Pathways:** Aminoacyl-tRNA biosynthesis

**Gene Summary:** Aminoacyl-tRNA synthetases are a class of enzymes that charge tRNAs with their cognate amino acids. Lysyl-tRNA synthetase is a homodimer localized to the cytoplasm which belongs to the class II family of tRNA synthetases. It has been shown to be a target of autoantibodies in the human autoimmune diseases, polymyositis or dermatomyositis. Alternatively spliced transcript variants encoding different isoforms have been found for this gene. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (2) lacks an internal exon in the 5' region, which results in an upstream AUG start codon, as compared to variant 1. The resulting isoform (2) has a shorter and distinct N-terminus, as compared to isoform 1.