

# Recombinant Human KARS, His-tagged

**Cat. No.** KARS-1010H    **Lot. No.** (See product label)

## SPECIFICATION

|                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product Overview</b>         | Recombinant human KARS protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography.                                                                                                                                                                                                                                                                                                                       |
| <b>Species</b>                  | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Source</b>                   | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Description</b>              | KARS, also known as Lysyl-tRNA synthetase, belongs to the class-II aminoacyl-tRNA synthetase family. It exists as both mitochondrial and cytoplasmic isoforms produced by alternative splicing, and thought to play a role in autoimmune diseases, such as polymyositis or dermatomyositis. This protein functions to catalyze the aminoacylation of tRNAs by their corresponding amino acids, thus linking amino acids with tRNA-contained nucleotide triplets. |
| <b>Form</b>                     | Liquid. 20mM Tris-HCl buffer (pH8.0) containing 20% glycerol, 0.1M NaCl, 1mM DTT                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Molecular Weight</b>         | 63.7 kDa (558aa)                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Purity</b>                   | > 95% by SDS - PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Concentration</b>            | 1.0 mg/ml (determined by Bradford assay)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Sequences of amino acids</b> | MGSSHHHHHH SSGLVPRGSH MSGVGPEEE SVDPNQYYKI RSQAIHQLKV<br>NGEDPYPHKF HVDISLTDFI QKYSHLQPGD HLTDITLKVAGRIHAKRASG<br>GKLIFYDLRG EGVKLQVMAN SRNYKSEEEF IHINNKLRRG DIIGVQGNPG                                                                                                                                                                                                                                                                                         |

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 45-1 Ramsey Road, Shirley, NY 11967, USA

KTKKGELSII PYEITLLSPC LHMLPHLHFGKDKETRYRQ RYLDLILNDF  
 VRQKFIIRSK IITYIRSFLD ELGFLEIETP MMNIIPGGAV AKPFITYHNE  
 LDMNLYMRIA PELYHKMLVVGGIDRVYEIG RQFRNEGIDL THNPEFTTCE  
 FYMAYADYHD LMEITEKMVS GMVKHITGSY KVTYHPDGPE GQAYDVDFTP  
 PFRRINMVEELEKALGMKLP ETNLFETEET RKILDDICVA KAVECPPPRT  
 TARLLDKLVG EFLEVTCINP TFICDHPQIM SPLAKWHRSK  
 EGLTERFELFVMKKEICNAY TELNDPMRQR QLFEEQAKAK AAGDDEAMFI  
 DENFCTALEY GLPPTAGWGM GIDRVAMFLT DSNNIKEVLL  
 FPAMKPEDKKENVATDTLE STTVGTSV

**Storage**

Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

**GENE INFORMATION**
**Gene Name**

KARS lysyl-tRNA synthetase [ Homo sapiens ]

**Official Symbol**

KARS

**Synonyms**

KARS; KRS; KARS2; CMTRIB; KIAA0070; lysyl-tRNA synthetase; lysRS;  
 OTTHUMP00000174948; OTTHUMP00000174949; lysine tRNA ligase; EC 6.1.1.6;  
 Lysine--tRNA ligase

**Gene ID**

3735

**mRNA Refseq**

NM\_001130089

**Protein Refseq**

NP\_001123561

**MIM**

601421

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|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>UniProt ID</b>          | Q15046                                                                                                                               |
| <b>Chromosome Location</b> | 16q23.1                                                                                                                              |
| <b>Function</b>            | ATP binding; ligase activity; lysine-tRNA ligase activity; metal ion binding; nucleic acid binding; nucleotide binding; tRNA binding |

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