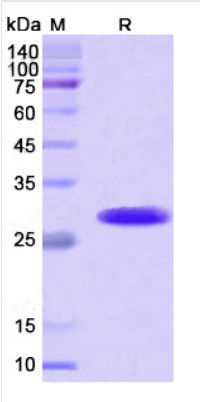
KARS1 Human Recombinant Protein

PRODUCT OVERVIEW

Product Name	KARS1, Recombinant Protein
Full Product Name	Recombinant Human KARS1, N-His
Product Gene Name	KARS1 recombinant protein
Product Synonym Names	KIAA0070; KARS; Lysyl-tRNA synthetase; LysRS; Lysine--tRNA ligase; KARS1
Host	E coli
Form/Format	Lyophilized from a solution in PBS pH7.4, 0.02% NLS, 1mM EDTA, 4% Trehalose, 1% Mannitol.
Purity/Purification	>90% as determined by SDS-PAGE
Preparation and Storage	Use a manual defrost freezer and avoid repeated freeze thaw cycles. Store at 2 to 8 degree C for one week. Store at -20 to -80 degree C for twelve months from the date of receipt.
Molecular Weight	71,497 Da
Sequence Positions	Arg323-Arg553
OMIM	601421
3D Structure	ModBase 3D Structure for Q15046
Species	Human
Reconstitution	Reconstitute in sterile water for a stock solution.
Product Categories/Family for KARS1 recombinant protein	Recombinant Proteins
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for KARS1 recombinant protein	SDS-PAGE (SDS), Western Blot (WB), ELISA (EIA), Immunogen
Related Product Information for KARS1 recombinant protein	MBS1574719 is a recombinant protein targeting KARS1. Also known as Recombinant Human KARS1, N-His. Host: E coli.
Other Notes	Small volumes of KARS1 recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.



SDS-Page of KARS1 recombinant protein
SDS PAGE for recombinant Human KARS1 protein

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for KARS1. It may not necessarily be applicable to this product.

NCBI GI #	194272210
NCBI GeneID	3735
NCBI Accession #	NP_001123561.1
UniProt Primary Accession #	Q15046
UniProt Secondary Accession #	O14946; Q96J25; Q9HB23; A8MSK1; D3DUK4
UniProt Related Accession #	Q15046
GenBank Nucleotide #	NM_001130089.1
NCBI Official Full Name	lysine--tRNA ligase isoform 1
NCBI Official Synonym Full Names	lysyl-tRNA synthetase
NCBI Official Symbol	KARS
NCBI Official Synonym Symbols	KRS; KARS1; KARS2; CMTRIB; DFNB89
UniProt Protein Name	Lysine--tRNA ligase
UniProt Synonym Protein Names	Lysyl-tRNA synthetase; LysRS
UniProt Gene Name	KARS
UniProt Synonym Gene Names	KIAA0070; LysRS
UniProt Entry Name	SYK_HUMAN
NCBI Protein Information	lysine--tRNA ligase; lysRS; lysine tRNA ligase
NCBI Summary for KARS1	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]

UniProt Comments for KARS1	KARS: Catalyzes the specific attachment of an amino acid to its cognate tRNA in a 2 step reaction: the amino acid (AA) is first activated by ATP to form AA-AMP and then transferred to the acceptor end of the tRNA. When secreted, acts as a signaling molecule that induces immune response through the activation of monocyte/macrophages. Catalyzes the synthesis of diadenosine oligophosphate (Ap4A), a signaling molecule involved in the activation of MITF transcriptional activity. Interacts with HIV-1 virus GAG protein, facilitating the selective packaging of tRNA(3)(Lys), the primer for reverse transcription initiation. Homodimer; also part of a multisubunit complex that groups AIMP1, AIMP2, EEF1A1 and tRNA ligases for Arg, Asp, Glu, Gln, Ile, Leu, Lys, Met and Pro. Interacts with AIMP2 (via N- terminus) and MITF. Interacts directly with HIV-1 virus GAG protein. Up-regulated by DARS and EEF1A1, but not by AIMP2. Belongs to the class-II aminoacyl-tRNA synthetase family. 2 isoforms of the human protein are produced by alternative splicing. Protein type: EC 6.1.1.6; Translation; Ligase; Mitochondrial Chromosomal Location of Human Ortholog: 16q23.1 Cellular Component: microtubule cytoskeleton; aminoacyl-tRNA synthetase multienzyme complex; mitochondrion; mitochondrial matrix; cytoplasm; extracellular region; plasma membrane; nucleus; cytosol Molecular Function: amino acid binding; protein binding; metal ion binding; lysine-tRNA ligase activity; ATP binding; tRNA binding Biological Process: tRNA aminoacylation for protein translation; lysyl-tRNA aminoacylation; viral reproduction; tRNA processing; gene expression; diadenosine tetraphosphate biosynthetic process Disease: Deafness, Autosomal Recessive 89; Charcot-marie-tooth Disease, Recessive Intermediate B
Research Articles on KARS1	**1.** structural characteristics of the KRS-LR interaction on the cell surface
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