

KARS Protein, Human, Recombinant (His)

General Information

Synonyms:	Lysine--tRNA Ligase;Lysyl-tRNA Synthetase;LysRS;KARS;KIAA0070
Protein Construction:	Ala2-Val597
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q15046
Molecular Weight:	70-90 KDa (reducing condition)
AA Sequence:	Ala2-Val597

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Supplied as a 0.2 μm filtered solution of 20 mM Tris-HCl, 100 mM NaCl, 1 mM DTT, 20% Glycerol, pH 8.0.

Preparation and Storage

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

Lysine-tRNA ligase, also known as Lysyl-tRNA synthetase, LysRS, KARS and KIAA0070, belongs to the class-II aminoacyl-tRNA synthetase family. The N-terminal cytoplasmic domain (1-65) is a functional tRNA-binding domain, which is required for nuclear localization, is involved in the interaction with DARS, but has a repulsive role in the binding to EEF1A1. A central domain (208-259) is involved in homodimerization and is required for interaction with HIV-1 GAG and incorporation into virions. KARS catalyzes the specific attachment of an amino acid to its cognate tRNA in a two 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. Defects in KARS are the cause of Charcot-Marie-Tooth disease recessive intermediate type B (CMTRIB).

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