

**KARS Antibody (N-term) Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP11097a****Specification**

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**KARS Antibody (N-term) Blocking peptide - Product Information**Primary Accession [Q15046](#)**KARS Antibody (N-term) Blocking peptide - Additional Information****Gene ID** 3735**Other Names**

Lysine--tRNA ligase, Lysyl-tRNA synthetase, LysRS, KARS, KIAA0070

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**KARS Antibody (N-term) Blocking peptide - Protein Information****Name** KARS1 ([HGNC:6215](#))**Synonyms** KARS, KIAA0070**Function**

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 (PubMed: [18029264](http://www.uniprot.org/citations/18029264), PubMed: [18272479](http://www.uniprot.org/citations/18272479), PubMed: [9278442](http://www.uniprot.org/citations/9278442)). When secreted, acts as a signaling molecule that induces immune response through the activation of monocyte/macrophages (PubMed: [15851690](http://www.uniprot.org/citations/15851690)). Catalyzes the synthesis of the signaling molecule diadenosine tetraphosphate (Ap4A), and thereby mediates disruption of the complex between HINT1 and MITF and the concomitant activation of MITF transcriptional activity (PubMed: [14975237](http://www.uniprot.org/citations/14975237), PubMed: [19524539](http://www.uniprot.org/citations/19524539), PubMed: [23159739](http://www.uniprot.org/citations/23159739), PubMed: [5338216](http://www.uniprot.org/citations/5338216)).

**Cellular Location**

[Isoform Cytoplasmic]: Cytoplasm, cytosol. Cytoplasm. Nucleus. Cell membrane; Peripheral membrane protein. Secreted Note=Secretion is induced by TNF-alpha (PubMed:15851690). Cytosolic in quiescent mast cells. Translocates into the nucleus in response to mast cell activation by immunoglobulin E (PubMed:23159739)

**KARS Antibody (N-term) Blocking peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

**KARS Antibody (N-term) Blocking peptide - Images****KARS Antibody (N-term) Blocking peptide - Background**

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.

**KARS Antibody (N-term) Blocking peptide - References**

McLaughlin, H.M., et al. Am. J. Hum. Genet. 87(4):560-566(2010) Kepp, O., et al. Cell Cycle 9(15):3072-3077(2010) Segat, L., et al. Vaccine 28(10):2201-2206(2010) Dastani, Z., et al. Eur. J. Hum. Genet. 18(3):342-347(2010) Kawamata, H., et al. J. Biol. Chem. 283(42):28321-28328(2008)