

KARS Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1195a**Specification**

KARS Antibody - Product Information

Application	WB, IHC
Primary Accession	O15046
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG1

Description

KARS: lysyl-tRNA synthetase. 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.

Immunogen

Purified recombinant fragment of KARS(aa90-174) expressed in E. Coli.

Formulation

Ascitic fluid containing 0.03% sodium azide.

KARS Antibody - Additional Information

Gene ID 3735

Other Names

Lysine--tRNA ligase, 6.1.1.6, Lysyl-tRNA synthetase, LysRS, KARS, KIAA0070

Dilution

WB~~1/500 - 1/2000

IHC~~1/500 - 1/2000

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

KARS Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

KARS Antibody - 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) target="_blank">18029264, PubMed: [18272479](http://www.uniprot.org/citations/18272479) target="_blank">18272479, PubMed: [9278442](http://www.uniprot.org/citations/9278442) target="_blank">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) target="_blank">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) target="_blank">14975237, PubMed: [19524539](http://www.uniprot.org/citations/19524539) target="_blank">19524539, PubMed: [23159739](http://www.uniprot.org/citations/23159739) target="_blank">23159739, PubMed: [5338216](http://www.uniprot.org/citations/5338216) target="_blank">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 - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

KARS Antibody - Images

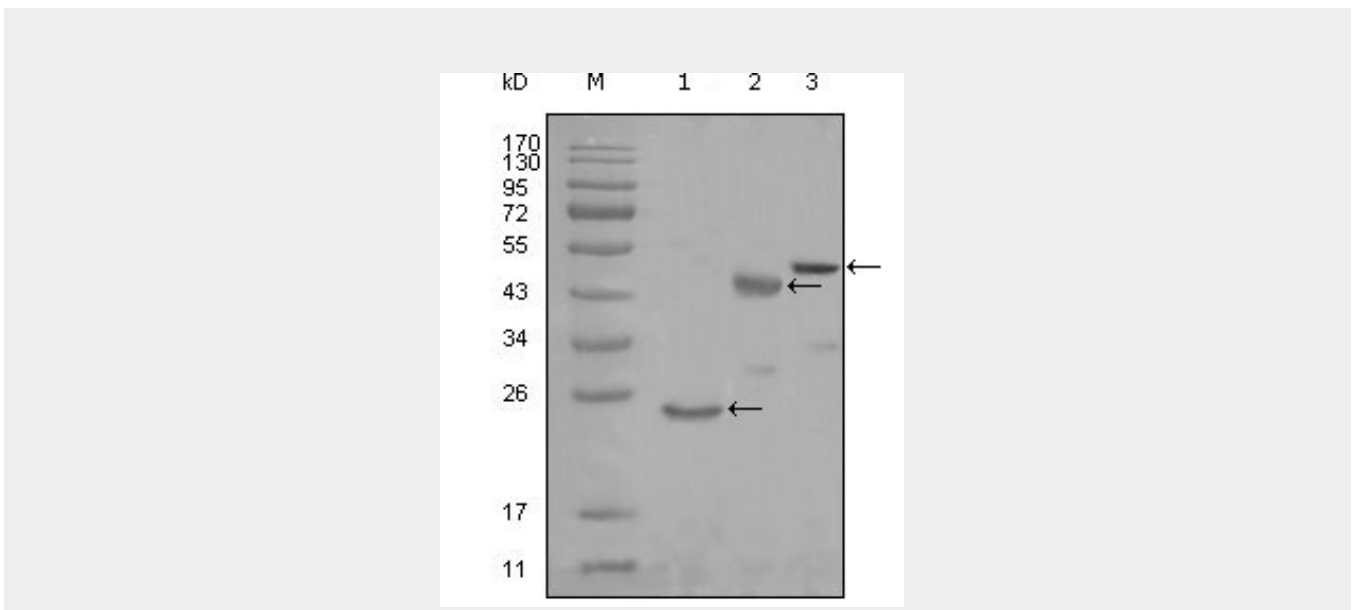


Figure 1: Western blot analysis using KARS mouse mAb against truncated Trx-KARS recombinant protein (1), truncated MBP-KARS (aa90-174) and full length KARS (aa1-188) transfected CHO-K1 cell lysate (3).

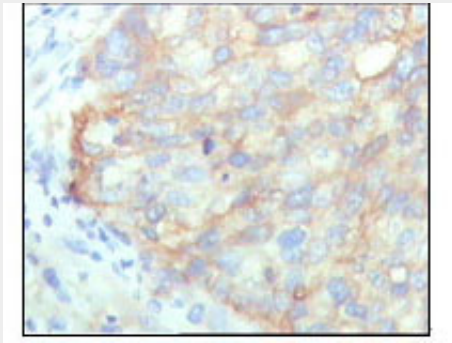


Figure 2: Immunohistochemical analysis of paraffin-embedded human cervical carcinoma, showing cytoplasmic localization with DAB staining using KARS mouse mAb.

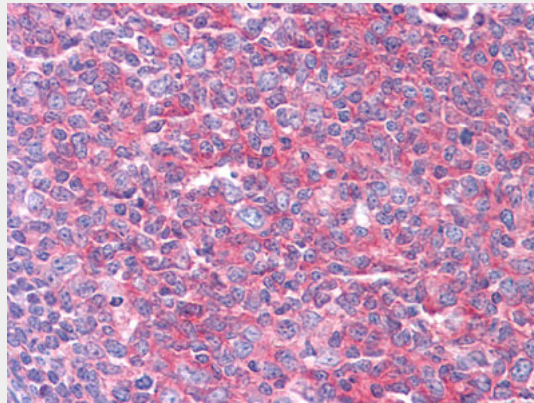


Figure 3: Immunohistochemical analysis of paraffin-embedded human Tonsil tissues using KARS mouse mAb

KARS Antibody - References

1. J Biol Chem. 2000 Nov 10;275(45):35063-9.
2. J Virol. 2001 Jun;75(11):5043-8.
3. Biochem Biophys Res Commun. 2002 Feb 15;291(1):158-64.
4. Cell. 2004 Oct 15;119(2):195-208.