

# KARS Antibody

Purified Mouse Monoclonal Antibody

Catalog # AO1195a

## Product Information

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<b>Application</b>	WB, IHC, E
<b>Primary Accession</b>	<a href="#">Q15046</a>
<b>Reactivity</b>	Human
<b>Host</b>	Mouse
<b>Clonality</b>	Monoclonal
<b>Clone Names</b>	8G12C1
<b>Isotype</b>	IgG1
<b>Calculated MW</b>	68048
<b>Description</b>	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.
<b>Immunogen</b>	Purified recombinant fragment of KARS(aa90-174) expressed in E. Coli.
<b>Formulation</b>	Ascitic fluid containing 0.03% sodium azide.

## Additional Information

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<b>Gene ID</b>	3735
<b>Other Names</b>	Lysine--tRNA ligase, 6.1.1.6, Lysyl-tRNA synthetase, LysRS, KARS, KIAA0070
<b>Dilution</b>	WB~~1/500 - 1/2000 IHC~~1/500 - 1/2000 E~~N/A
<b>Storage</b>	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.
<b>Precautions</b>	KARS Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	KARS1 ( <a href="#">HGNC:6215</a> )
<b>Synonyms</b>	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](#), PubMed:[18272479](#), PubMed:[9278442](#)). When secreted, acts as a signaling molecule that induces immune response through the activation of monocyte/macrophages (PubMed:[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](#), PubMed:[19524539](#), PubMed:[23159739](#), PubMed:[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)

## 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.

## Images

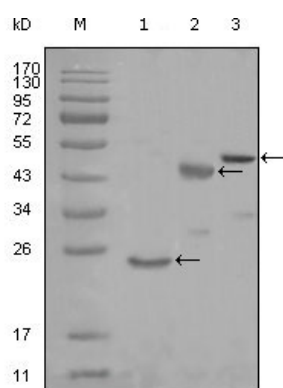


Figure 1: Western blot analysis using KARS mouse mAb against truncated Trx-KARS recombinant protein (1), truncated MBP-KARS (aa90-174) and full length KARS (aa1-188) transfected CHO-K1 cell lysate (3).

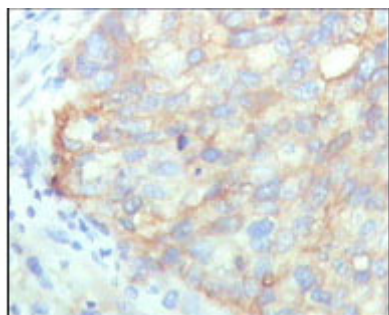
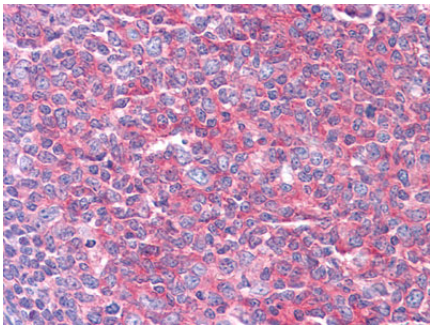


Figure 2: Immunohistochemical analysis of paraffin-embedded human cervical carcinoma, showing cytoplasmic localization with DAB staining using KARS mouse mAb.

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



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.