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KARS Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1195a

Product Information

Application	WB, IHC, E
Primary Accession	Q15046
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	8G12C1
Isotype	IgG1
Calculated MW	68048
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.

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 E~~N/A
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.

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, 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 (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

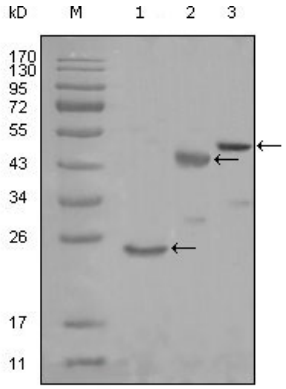


Figure 1: Western blot analysis using KARS mouse mAb against truncated Trx-KARS recombinant protein (1), truncated MBP-KARS (aa90-174) and full length KARS (aa1-188) transfected CHO-K1 cell lysate (3).

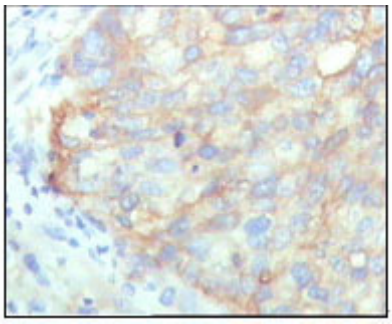
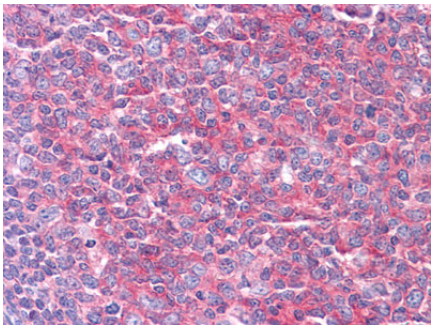


Figure 2: Immunohistochemical analysis of paraffin-embedded human cervical carcinoma, showing cytoplasmic localization with DAB staining using KARS mouse mAb.

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'.