

**KARS Antibody (N-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP11097a**

**Specification**

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**KARS Antibody (N-term) - Product Information**

Application	WB, FC,E
Primary Accession	<a href="#">Q15046</a>
Other Accession	<a href="#">NP_005539.1</a> , <a href="#">NP_001123561.1</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	68048
Antigen Region	70-98

**KARS Antibody (N-term) - Additional Information**

**Gene ID** 3735

**Other Names**

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

**Target/Specificity**

This KARS antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 70-98 amino acids from the N-terminal region of human KARS.

**Dilution**

WB~~1:1000

FC~~1:10~50

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**Storage**

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

**Precautions**

KARS Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

**KARS Antibody (N-term) - 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

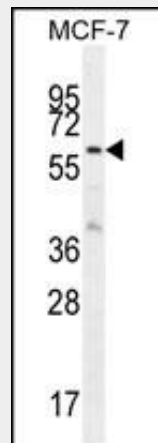
[Isoform Cytoplasmic]: Cytoplasm, cytosol. Cytoplasm. Nucleus. Cell membrane; Peripheral membrane protein. Secreted Note=Secretion is induced by TNF-alpha (PubMed:[15851690](#)). Cytosolic in quiescent mast cells. Translocates into the nucleus in response to mast cell activation by immunoglobulin E (PubMed:[23159739](#))

#### KARS Antibody (N-term) - Protocols

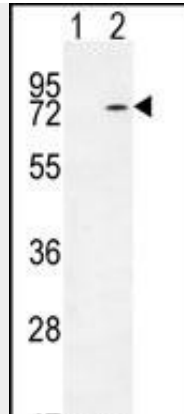
Provided below are standard protocols that you may find useful for product applications.

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

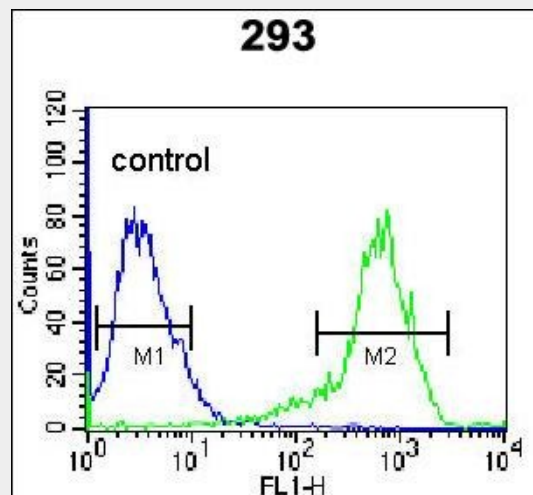
#### KARS Antibody (N-term) - Images



KARS Antibody (N-term) (Cat. #AP11097a) western blot analysis in MCF-7 cell line lysates (35ug/lane). This demonstrates the KARS antibody detected the KARS protein (arrow).



Western blot analysis of KARS (arrow) using rabbit polyclonal KARS Antibody (N-term) (Cat. #AP11097a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected (Lane 2) with the KARS gene.



KARS Antibody (N-term) (Cat. #AP11097a) flow cytometric analysis of 293 cells (right histogram) compared to a negative control cell (left histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

#### **KARS Antibody (N-term) - 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) - 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)