

**GARS Antibody**  
**Purified Mouse Monoclonal Antibody (Mab)**  
**Catalog # AM8527b**

**Specification**

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**GARS Antibody - Product Information**

Application	WB, FC, IF, E
Primary Accession	<a href="#">P41250</a>
Reactivity	Human
Host	Mouse
Clonality	monoclonal
Isotype	IgG1, k

**GARS Antibody - Additional Information**

**Gene ID** 2617

**Other Names**

Glycine--tRNA ligase, 6.1.1.14, Diadenosine tetraphosphate synthetase, AP-4-A synthetase, Glycyl-tRNA synthetase, GlyRS, GARS

**Target/Specificity**

This GARS antibody is generated from a mouse immunized with a recombinant protein between 15-305 amino acids from human GARS.

**Dilution**

WB~~1:2000  
FC~~1:25  
IF~~1:25  
E~~Use at an assay dependent concentration.

**Format**

Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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**

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

**GARS Antibody - Protein Information**

**Name** GARS1 ([HGNC:4162](#))

**Synonyms** GARS

**Function** Catalyzes the ATP-dependent ligation of glycine to the 3'-end of its cognate tRNA, via the formation of an aminoacyl-adenylate intermediate (Gly-AMP) (PubMed:[17544401](#), PubMed:[24898252](#), PubMed:[28675565](#)). Also produces diadenosine tetraphosphate (Ap4A), a universal pleiotropic signaling molecule needed for cell regulation pathways, by direct condensation of 2 ATPs. Thereby, may play a special role in Ap4A homeostasis (PubMed:[19710017](#)).

#### Cellular Location

Cytoplasm. Cell projection, axon. Secreted {ECO:0000250|UniProtKB:Q9CZD3}. Secreted, extracellular exosome {ECO:0000250|UniProtKB:Q9CZD3}. Note=In transfected COS7 cells, not detected in mitochondria, nor in Golgi apparatus (PubMed:17035524) Secreted by motor neuron, possibly through the exosome pathway (By similarity). {ECO:0000250|UniProtKB:Q9CZD3, ECO:0000269|PubMed:17035524} [Isoform 2]: Cytoplasm. Cell projection, axon

#### Tissue Location

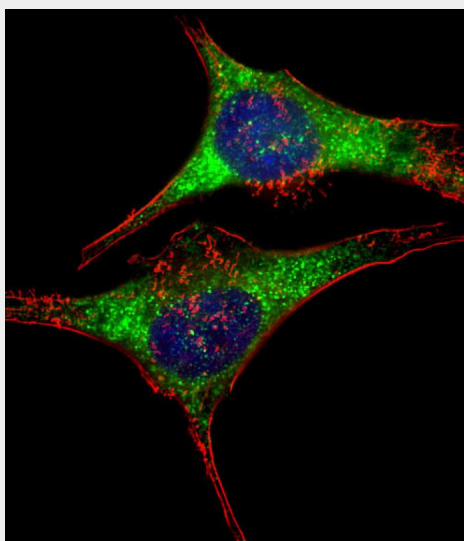
Widely expressed, including in brain and spinal cord. [Isoform 1]: Expressed in brain, spinal cord, muscle, heart, spleen and liver.

### GARS Antibody - Protocols

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

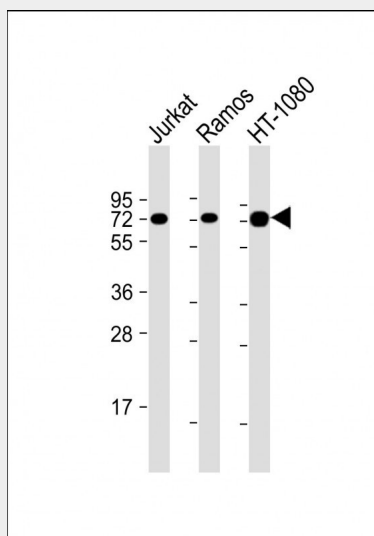
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### GARS Antibody - Images

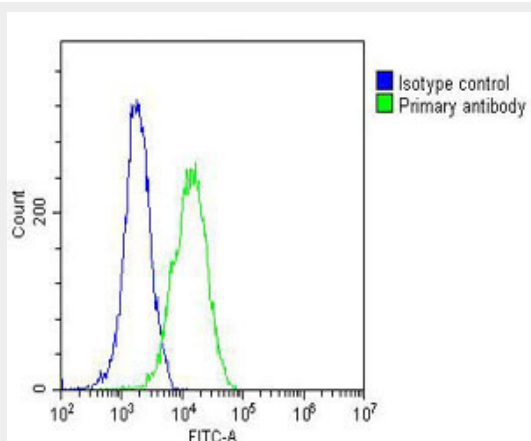


Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling GARS with AM8527b at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-mouse IgG (NA166821) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing cytoplasm and weak

nucleus staining on HeLa cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red). The nuclear counter stain is DAPI (blue).



All lanes : Anti-GARS Antibody at 1:2000 dilution Lane 1: Jurkat whole cell lysate Lane 2: Ramos whole cell lysate Lane 3: HT-1080 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 83 kDa Blocking/Dilution buffer: 5% NFDm/TBST.



Overlay histogram showing U-2OS cells stained with AM8527b (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then incubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AM8527b, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed (OJ192088) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG1 (1 µg/1x10<sup>6</sup> cells) used under the same conditions. Acquisition of >10,000 events was performed.

### GARS Antibody - Background

Catalyzes the attachment of glycine to tRNA(Gly). Is also able produce diadenosine tetraphosphate (Ap4A), a universal pleiotropic signaling molecule needed for cell regulation pathways, by direct condensation of 2 ATPs.

### GARS Antibody - References

Shiba K., et al. J. Biol. Chem. 269:30049-30055(1994).

Williams J.H.,et al.Nucleic Acids Res. 23:1307-1310(1995).  
Ota T.,et al.Nat. Genet. 36:40-45(2004).  
Hillier L.W.,et al.Nature 424:157-164(2003).  
Ge Q.,et al.J. Biol. Chem. 269:28790-28797(1994).