

# GARS Antibody

Purified Mouse Monoclonal Antibody (Mab)

Catalog # AM8527b

## Product Information

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<b>Application</b>	WB, FC, IF, E
<b>Primary Accession</b>	<a href="#">P41250</a>
<b>Reactivity</b>	Human, Rat, Mouse
<b>Host</b>	Mouse
<b>Clonality</b>	monoclonal
<b>Isotype</b>	IgG1,k
<b>Clone Names</b>	1641CT837.23.96
<b>Calculated MW</b>	83166

## Additional Information

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<b>Gene ID</b>	2617
<b>Other Names</b>	Glycine--tRNA ligase, 6.1.1.14, Diadenosine tetraphosphate synthetase, AP-4-A synthetase, Glycyl-tRNA synthetase, GlyRS, GARS
<b>Target/Specificity</b>	This GARS antibody is generated from a mouse immunized with a recombinant protein between 15-305 amino acids from human GARS.
<b>Dilution</b>	WB~~1:2000 FC~~1:25 IF~~1:25 E~~Use at an assay dependent concentration.
<b>Format</b>	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.
<b>Storage</b>	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.
<b>Precautions</b>	GARS Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	GARS1 ( <a href="#">HGNC:4162</a> )
<b>Synonyms</b>	GARS
<b>Function</b>	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: <a href="#">17544401</a> , PubMed: <a href="#">24898252</a> , PubMed: <a href="#">28675565</a> ). 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.

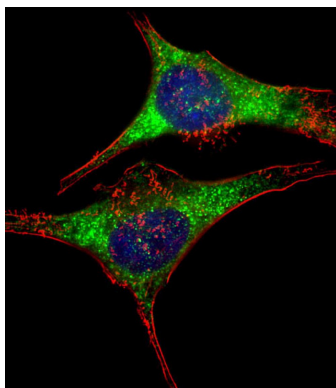
## Background

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.

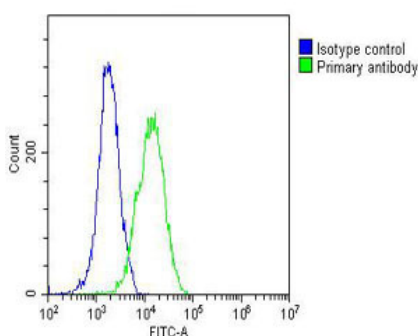
## References

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).

## Images

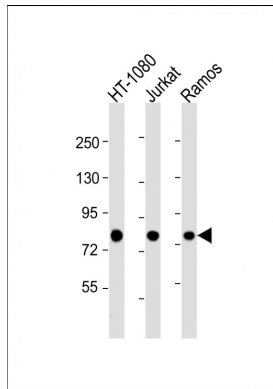


Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling GARS with AM8527b at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-mouse IgG (NA166821) secondary antibody at 1/200 dilution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



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 $\mu$ g/1 $\times 10^6$  cells) used under the same conditions.  
Acquisition of >10, 000 events was performed.



All lanes : Anti-GARS Antibody at 1:4000 dilution Lane 1:  
HT-1080 whole cell lysate Lane 2: Jurkat whole cell lysate  
Lane 3: Ramos whole cell lysate Lysates/proteins at 20  $\mu$ g  
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.

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