10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GARS Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AW5653

Product Information

Application	FC, WB
Primary Accession	P41250
Reactivity	Human, Mouse
Host	Mouse
Clonality	Monoclonal
Calculated MW	83166
Isotype	IgG1,κ
Antigen Source	HUMAN

Additional Information

Gene ID	2617
Antigen Region	15-305
Other Names	Glycine--tRNA ligase, 6.1.1.14, Diadenosine tetraphosphate synthetase, AP-4-A synthetase, Glycyl-tRNA synthetase, GlyRS, GARS
Dilution	FC~~1:25 WB~~1:1000
Target/Specificity	This GARS antibody is generated from a mouse immunized with a recombinant protein between 15-305 amino acids from human GARS.
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.

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.

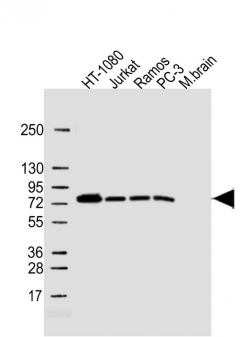
Background

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

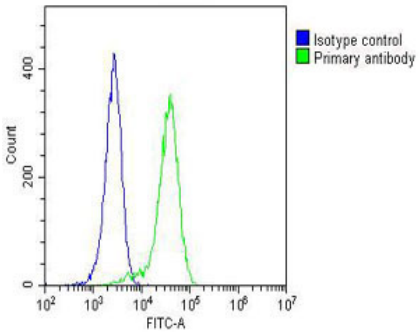
Shiba K.,et al.J. Biol. Chem. 269:30049-30055(1994).
Williams J.H.,et al.Nucleic Acids Res. 23:1307-1310(1995).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Hillier L.W.,et al.Nature 424:157-164(2003).
Ge Q.,et al.J. Biol. Chem. 269:28790-28797(1994).

Images



All lanes : Anti-GARS Antibody at 1:1000 dilution Lane 1: HT-1080 whole cell lysate Lane 2: Jurkat whole cell lysate Lane 3: Ramos whole cell lysate Lane 4: PC-3 whole cell lysate Lane 4: mouse brain lysate Lysates/proteins at 15 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 Hela cells stained with AW5653(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AW5653, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OJ192088) at 1/200



dilution for 40 min at 37ºC. Isotype control antibody (blue line) was mouse IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.