



Anti-GARS1 Antibody

Alternative Names: Glycyl-tRNA synthetase, Glycyl-tRNA synthetase 1, Ap4A Synthetase, Charcot-Marie-Tooth Neuropathy Neuronal Type D, SMAD1, CMT2D, HMN5

Catalogue Number: AB19-10121-50ug

Size: 50 µg

Background Information

Glycyl-tRNA synthetase 1 (GARS1) is an aminoacyl-tRNA synthetase that charges tRNAs with glycine. As with all aminoacyl-tRNA synthetases (aaRSs), Glycyl-tRNA synthetase 1 is an essential enzyme, catalysing the first reaction in protein biosynthesis. Glycyl-tRNA synthetase 1 belongs to the class II family of tRNA synthetases and naturally has a glycine binding domain and a WHEP-TRS domain which plays a role in the association of tRNA-synthetases into multienzyme complexes. Charcot-Marie-Tooth neuropathy (CMT) is an incurable neurodegenerative disease caused by dominant mono-allelic mutations in some aaRSs including Glycyl-tRNA synthetase 1. It has been shown that dominant mutations in GARS1 cause CMT through toxic gain-of-function effects, which also may apply to other aaRS-linked CMT subtypes. Aminoacyl-tRNA synthetases, including GARS (Glycyl-tRNA synthetase), have been identified as downstream targets of Ubiquitin-like modifier-activating enzyme 1 (UBA1). Dysregulation of UBA1/GARS pathways in spinal muscular atrophy results in a similar phenotype to GARS-dependent defects (such as Charcot-Marie-Tooth disease), perhaps indicating significant molecular and phenotypic overlap between spinal muscular atrophy and Charcot-Marie-Tooth disease.

Product Information

Antibody Type:	Polyclonal	Host:	Rabbit
Isotype:	IgG	Species Reactivity:	Human
Immunogen:	Partial length recombinant human GARS from the C-terminal region		
Format:	50 µg in 50 µl PBS with 0.03% Proclin300, 50% glycerol, pH7.3.		
Storage Conditions:	Store at -20°C. Avoid freeze / thaw cycles.		
Applications:	WB WB 1:500-2000.		

Additional Information

Subcellular location:	Cytoplasm, Secreted, Exosomes	MW:	83kDa (Intended as a general guide and does not allow for all isoforms and species variations)
Gene ID	2617	Uniprot ID:	P41250