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**Product Data Sheet**


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Product Name: GARS Human  
 Cat. No.: GP21644  
 Batch No.: 1

**Product Data**

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped with Ice Packs.
Synonyms	Glycine--tRNA ligase; Diadenosine tetraphosphate synthetase; AP-4-A synthetase; Glycyl-tRNA synthetase; GlyRS; GARS; CMT2D; DSMAV; HMN5; SMAD1.		
Amino Acid Sequence	MGSSHHHHHH SGLVPRGSH MGSPISLPAA ASRSSMDGAG AEEVLAPLRL AVRQQGDLVR KLKEDKAPQV DVDKAVAELK ARKRVLEAKE LALQPKDDIV DRAKMEDTLK RRRFFYDQAF A IYGGVSGLYD FGPVGCALKN NIIQTRWQHF IQEEQILEID CTMLTPEPVL KTSGHVDKFA DFMVKDVKNG ECFRADHLLK AHLQKLMSDK KCSVEKKSEM ESVLAQLDNY GQQELADLFV NYNVKSPITG NDLSPPVSN LMFKTFIGPG.		
Formulation	GARS protein solution (0.5 mg/ml) containing 20mM Tris-HCl buffer (pH 8.0), 0.15M NaCl, 10% glycerol and 1mM DTT.		

**Introduction**

GARS is an (alpha)<sub>2</sub> dimer which is a member of the class II family of tRNA synthetases. GARS is a glycyl-tRNA synthetase, one of the aminoacyl-tRNA synthetases which charge tRNAs with their cognate amino acids. GARS catalyzes the attachment of glycine to tRNA(Gly). In addition, GARS is able to produce diadenosine tetraphosphate (Ap<sub>4</sub>A), which is a universal pleiotropic signaling molecule required for cell regulation pathways, by direct condensation of two ATPs. GARS has been demonstrated to be a target of autoantibodies in the human autoimmune diseases, polymyositis or dermatomyositis.

**Stability**

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Avoid multiple freeze-thaw cycles.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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### Background

GARS Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 270 amino acids (43-289 a.a) and having a molecular mass of 30kDa. GARS is fused to a 23 amino acid His-tag at N-terminus & purified by proprietary chromatographic techniques.

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