

QARS/Glutamyl Prolyl tRNA synthetase/ProRS Rabbit pAb

Catalog # AP100203

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P47897
Other Accession	P47897
Reactivity	Rat, Mouse
Predicted	Pig, Human, Chicken, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	87799
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human ProRS
Epitope Specificity	651-750/1512
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	In the N-terminal section; belongs to the class-I aminoacyl-tRNA synthetase family. In the C-terminal section; belongs to the class-II aminoacyl-tRNA synthetase family. Contains 3 WHEP-TRS domains.
SUBUNIT	Component of the multisynthetase complex which is comprised of a bifunctional glutamyl-prolyl-tRNA synthetase, the monospecific isoleucyl, leucyl, glutaminyl, methionyl, lysyl, arginyl, and aspartyl-tRNA synthetases as well as three auxiliary proteins, p18, p48 and p43. Interacts with DUS2L. Component of the GAIT complex; in humans the complex assembly seems to be a two-step process in which EPRS first associates with SYNCRIP to form the pre-GAIT complex which is deficient in GAIT element binding.
Post-translational modifications	Phosphorylated at Ser-886 by CDK5 in a IFN-gamma-dependent manner; this phosphorylation activates assembly of the GAIT (IFN-gamma-activated inhibitor of translation) complex, which suppresses expression of a post-transcriptional regulation of proinflammatory genes in myeloid cells.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The fidelity of protein synthesis requires efficient discrimination of amino acid substrates by aminoacyl-tRNA synthetases. Aminoacyl-tRNA synthetases function to catalyze the aminoacylation of tRNAs by their corresponding amino acids, thus linking amino acids with tRNA-contained nucleotide triplets. ProRS (Prolyl-tRNA synthetase), also known as EPRS, EARS, PARS, QARS, QPRS, PIG32 or GLUPRORS, is a 1,512 amino acid protein that contains three WHEP-TRS domains and belongs to both the class-I and class-II aminoacyl-tRNA synthetase family. Functioning as a component of the multisynthetase complex, ProRS uses ATP to catalyze the conversion of L-glutamate and tRNA(Glu) to L-glutamyl-tRNA(Glu), as well as the conversion of L-proline and tRNA(Pro) to L-prolyl-tRNA(Pro).

Additional Information

Gene ID	5859
Other Names	GLNRS; MSCCA; PRO2195; QARS; SYQ_HUMAN; QARS1; Glutaminyl-tRNA synthetase (GlnRS); 6.1.1.18; glutaminyl-tRNA synthetase 1; glutaminyl-tRNA synthetase; glutamine tRNA ligase
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	QARS1 (HGNC:9751)
Synonyms	QARS
Function	Glutamine--tRNA ligase (PubMed: 26869582). Plays a critical role in brain development (PubMed: 24656866).
Cellular Location	Cytoplasm, cytosol. Cytoplasm
Tissue Location	Highly expressed in fetal cerebral cortex, particularly in the ventricular zone, inner subventricular zone, outer subventricular zone, and cortical plate.

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