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

Tyrosyl tRNA synthetase (YARS) Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7580a

Product Information

Application	WB, E
Primary Accession	P54577
Other Accession	Q4KM49
Reactivity	Human
Predicted	Rat, Mouse, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14873
Calculated MW	59143
Antigen Region	160-190

Additional Information

Gene ID	8565
Other Names	Tyrosine--tRNA ligase, cytoplasmic, Tyrosyl-tRNA synthetase, TyrRS, Tyrosine--tRNA ligase, cytoplasmic, N-terminally processed, YARS
Target/Specificity	This Tyrosyl tRNA synthetase (YARS) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 160-190 amino acids from the N-terminal region of human Tyrosyl tRNA synthetase (YARS).
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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	Tyrosyl tRNA synthetase (YARS) Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	YARS1 (HGNC:12840)
Function	Tyrosine--tRNA ligase that catalyzes the attachment of tyrosine to tRNA(Tyr) in a two-step reaction: tyrosine is first activated by ATP to form Tyr-AMP and

	then transferred to the acceptor end of tRNA(Tyr) (Probable) (PubMed:25533949). Also acts as a positive regulator of poly-ADP-ribosylation in the nucleus, independently of its tyrosine--tRNA ligase activity (PubMed:25533949). Activity is switched upon resveratrol-binding: resveratrol strongly inhibits the tyrosine-- tRNA ligase activity and promotes relocalization to the nucleus, where YARS1 specifically stimulates the poly-ADP-ribosyltransferase activity of PARP1 (PubMed:25533949).
Cellular Location	Cytoplasm. Nucleus Note=Cytoplasmic in normal conditions (PubMed:25533949). Resveratrol- binding in response to serum starvation promotes relocalization to the nucleus (PubMed:25533949).

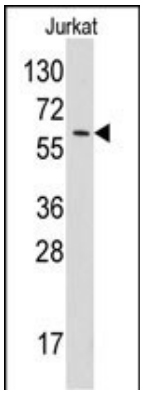
Background

Aminoacyl-tRNA synthetases catalyze the aminoacylation of tRNA by their cognate amino acid. Because of their central role in linking amino acids with nucleotide triplets contained in tRNAs, aminoacyl-tRNA synthetases are thought to be among the first proteins that appeared in evolution. Tyrosyl-tRNA synthetase belongs to the class I tRNA synthetase family. Cytokine activities have also been observed for the human tyrosyl-tRNA synthetase, after it is split into two parts, an N-terminal fragment that harbors the catalytic site and a C-terminal fragment found only in the mammalian enzyme. The N-terminal fragment is an interleukin-8-like cytokine, whereas the released C-terminal fragment is an EMAP II-like cytokine.

References

Yang,X.L., Chem. Biol. 14 (12), 1323-1333 (2007)
Jordanova,A., Nat. Genet. 38 (2), 197-202 (2006)
Bonnefond,L., Biochemistry 44 (12), 4805-4816 (2005)

Images



Western blot analysis of anti-YARS Pab (Cat.#AP7580a) in Jurkat cell line lysates (35ug/lane).YARS (arrow) was detected using the purified Pab.

Citations

- Alternative splicing creates two new architectures for human tyrosyl-tRNA synthetase.

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