

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
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).

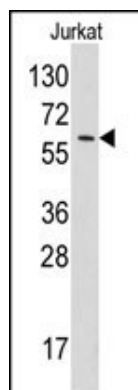
Background

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)
Bonfond,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'.