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

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7580b

Product Information

Application	WB, IHC-P, E
Primary Accession	P54577
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB14931
Calculated MW	59143
Antigen Region	450-479

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 450-479 amino acids from the C-terminal region of human Tyrosyl tRNA synthetase (YARS).
Dilution	WB~~1:1000 IHC-P~~1:100~500 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 (C-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).

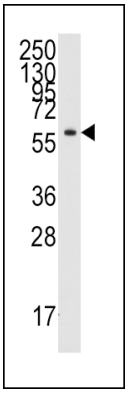
Background

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.

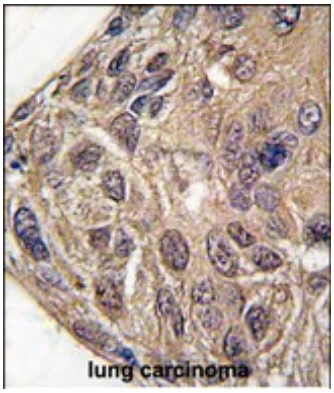
References

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 Antibody (C-term) (Cat.#AP7580b) in CEM cell line lysates (35ug/lane). YARS(arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with YARS antibody (C-term) (Cat.#AP7580b), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

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