

TYW1 Antibody

Catalog # ASC11333

Product Information

Application	WB, E, IHC-P
Primary Accession	Q9NV66
Other Accession	NP_060734 , 50726981
Reactivity	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	83702
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	TYW1 antibody can be used for detection of TYW1 by Western blot at 1 μ g/mL. Antibody can also be used for immunohistochemistry starting at 5 μ g/mL.

Additional Information

Gene ID	55253
Other Names	S-adenosyl-L-methionine-dependent tRNA 4-demethylwyosine synthase, 4.1.3.44, Radical S-adenosyl methionine and flavodoxin domain-containing protein 1, tRNA wybutosine-synthesizing protein 1 homolog, tRNA-yW-synthesizing protein, TYW1, RSAFD1
Target/Specificity	TYW1; TYW1 antibody is predicted to not cross-react with other TYW protein family members. At least three isoforms of TYW1 are known to exist; this antibody will only detect the two larger isoforms.
Reconstitution & Storage	TYW1 antibody can be stored at 4 °C, stable for one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	TYW1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	TYW1 (HGNC:25598)
Synonyms	RSAFD1
Function	Involved in the biosynthesis of wybutosine, a hyper modified guanosine with a tricyclic base located at position 37 of eukaryotic phenylalanine tRNA (tRNA(Phe)) that contributes to maintenance of the translational reading frame. Catalyzes the condensation of N- methylguanine with 2 carbon atoms from pyruvate to form the tricyclic 4-demethylwyosine, an intermediate in

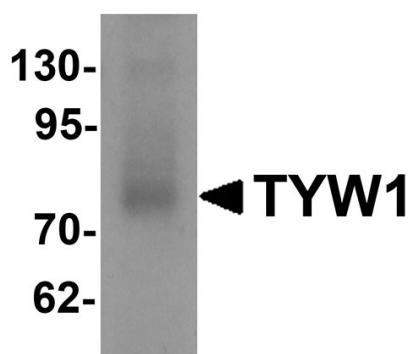
Background

TYW1 Antibody: TYW1, also known as TYW1A, RSAFD1 or YPL207W, is a 732 amino acid protein containing one flavodoxin-like domain that participates in the wybutosine-tRNA (Phe) biosynthesis pathway. Wybutosine (yW) is a hypermodified guanosine at the 3-prime position adjacent to the anticodon of phenylalanine tRNA that stabilizes codon-anticodon interactions during decoding on the ribosome. TYW1 is involved in a multistep enzymatic reaction that stabilizes codon-anticodon base-pairing during the ribosomal decoding process, thereby ensuring correct translation. TYW1 binds to one 4Fe-4S cluster and is located on human chromosome 7. Defects in some of the genes on chromosome 7 have been linked to Osteogenesis imperfecta, Williams-Beuren syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome, suggesting that TYW1 may play a role in these conditions

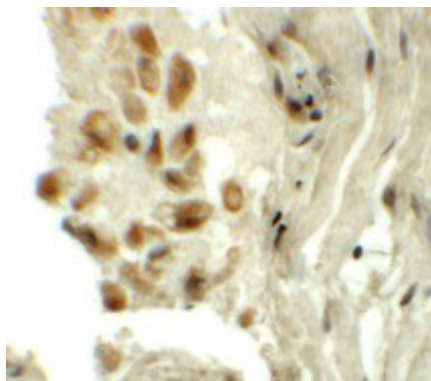
References

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Noma A, Kirino Y, Ikeuchi Y, et al. Biosynthesis of wybutosine, a hyper-modified nucleoside in eukaryotic phenylalanine tRNA. *EMBO J.* 2006; 25:2142-54
Hillier LW, Fulton RS, Fulton LA, et al. The DNA sequence of human chromosome 7. *Nature* 2003; 424:157-64.
Goto-Ito S, Ishii R, Ito T, et al. Structure of an archaeal TYW1, the enzyme catalyzing the second step of wye-base biosynthesis. *Acta Crystallogr. D Biol. Crystallogr.* 2007; 63:1059-68

Images



Western blot analysis of TYW1 in human lung tissue lysate with TYW1 antibody at 1 µg/mL.



Immunohistochemistry of TYW1 in human lung tissue with TYW1 antibody at 5 µg/mL.