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

# TYW2 Antibody

Catalog # ASC11334

## Product Information

| | |
|---|---|
| **Application** | WB, ICC, E |
| **Primary Accession** | Q53H54 |
| **Other Accession** | Q53H54, 157388919 |
| **Reactivity** | Human, Mouse |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Calculated MW** | 50236 |
| **Concentration (mg/ml)** | 1 mg/mL |
| **Conjugate** | Unconjugated |
| **Application Notes** | TYW2 antibody can be used for detection of TYW2 by Western blot at 0.5 g/mL. Antibody can also be used for immunocytochemistry starting at 10 g/mL. |

## Additional Information

| | |
|---|---|
| **Gene ID** | 55039 |
| **Other Names** | tRNA wybutosine-synthesizing protein 2 homolog, tRNA-yW-synthesizing protein 2, 2.5.1.114, tRNA(Phe) (4-demethylwyosine(37)-C(7)) aminocarboxypropyltransferase, TRMT12, TRM12, TYW2 |
| **Target/Specificity** | TRMT12; TYW2 antibody is predicted to not cross-react with other TYW protein family members. At least two isoforms of TYW2 are known to exist; this antibody will detect both isoforms |
| **Reconstitution & Storage** | TYW2 antibody can be stored at 4 ℃, 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** | TYW2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

| | |
|---|---|
| **Name** | TYW2 ( HGNC:26091) |
| **Synonyms** | TRM12, TRMT12 |
| **Function** | S-adenosyl-L-methionine-dependent transferase that acts as a component of the wybutosine biosynthesis pathway. Wybutosine is a hyper modified guanosine with a tricyclic base found at the 3'-position adjacent to the anticodon of eukaryotic phenylalanine tRNA. Catalyzes the transfer of the alpha-amino-alpha-carboxypropyl (acp) group from S- adenosyl-L-methionine |

to the C-7 position of 4-demethylwyosine (imG-14) to produce wybutosine-86.

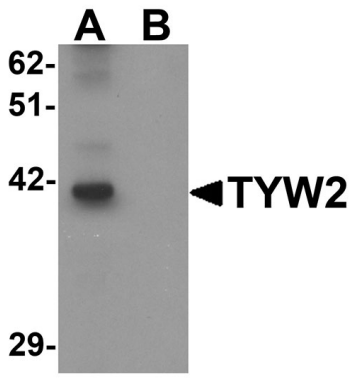
## Background

TYW2 Antibody: TYW2, also known as TRM12, is an enzyme 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. TYW2 is involved in a multistep enzymatic reaction that stabilizes codon-anticodon base-pairing during the ribosomal decoding process, thereby ensuring correct translation. TYW2 was found to be amplified in 7 of 8 breast cancers cell lines analyzed, and qPCR analysis of 30 breast tumors showed overexpression of TYW2 mRNA of over 2-fold in 26, suggesting that TYW2 may play a role in breast cancer.

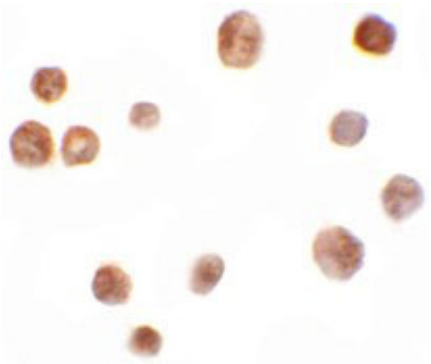
## References

Noma A and Suzuki T. Ribonucleome analysis identified enzyme genes responsible for wybutosine synthesis. Nucleic Acids Symp. Ser. (Oxf) 2006; 65-6
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
Rodriquez V, Chen Y, Elkahloun A, et al. Chromosome 8 BAC array comparative genomic hybridization and expression analysis identify amplification and overexpression of TRMT12 in breast cancer. Genes Chromosomes Cancer 2007; 46:694-707

## Images




Western blot analysis of TYW2 in K562 cell lysate with TYW2 antibody at 0.5 µg/mL in (A) the absence and (B) the presence of blocking peptide.



Immunocytochemistry of TYW2 in K562 cells with TYW2 antibody at 10 µg/mL.

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