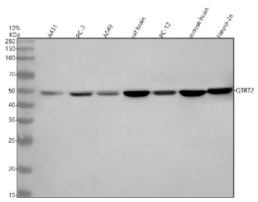
QTRT2 Antibody / Queuine tRNA-ribosyltransferase subunit 2 (FY12313)

Catalog No.	Formulation	Size
FY12313	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9H974
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This QTRT2 antibody is available for research use only.



Western blot analysis of QTRT2 using anti-QTRT2 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human whole cell lysates, Lane 2: human PC-3 whole cell lysates, Lane 3: human whole cell lysates, Lane 4: rat brain tissue lysates, Lane 5: rat PC-12 whole cell lysates, Lane 6: mouse brain tissue lysates, Lane 7: mouse Neuro-2a whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-QTRT2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. The expected molecular weight of QTRT2 is ~47 kDa.

Description

QTRT2 antibody detects Queuine tRNA-ribosyltransferase subunit 2, encoded by the QTRT2 gene on chromosome 6p25.1. QTRT2 antibody is widely used in RNA modification, translation, and metabolism research. QTRT2 partners with

QTRT1 to form the heterodimeric tRNA-guanine transglycosylase complex that catalyzes incorporation of queuine into the anticodon wobble position of tRNAs. This modification enhances translation accuracy and efficiency.

Structurally, QTRT2 is a ~47 kDa protein that shares homology with QTRT1 but lacks catalytic residues. Instead, QTRT2 functions as a structural subunit that stabilizes the heterodimer and facilitates substrate recognition. QTRT2 localizes to the cytoplasm where tRNA modification occurs. It is conserved across eukaryotes, reflecting its fundamental role in translation regulation.

Functionally, QTRT2 supports tRNA modification that improves translational fidelity and codon-anticodon interactions. Queuine modification affects protein synthesis rates, cellular stress responses, and adaptation to nutrient availability. Researchers use QTRT2 antibody to investigate RNA modifications, translation quality control, and metabolic regulation.

Clinically, defects in queuine modification have been associated with cancer, neurodevelopmental disorders, and infection. Altered expression of QTRT2 has been reported in some tumors, suggesting a role in metabolic reprogramming and growth. Because RNA modifications are emerging therapeutic targets, QTRT2 is under active investigation. NSJ Bioreagents provides QTRT2 antibody to support RNA biology and translational control research.

Experimentally, QTRT2 antibody is applied in western blotting to detect the ~47 kDa protein, in immunofluorescence microscopy to study cytoplasmic localization, and in immunoprecipitation to analyze QTRT1-QTRT2 complexes. Functional assays combining QTRT2 antibody with RNA analysis confirm its role in tRNA modification.

Application Notes

Optimal dilution of the QTRT2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human QTRT2 recombinant protein (Position: Q142-H386) was used as the immunogen for the QTRT2 antibody.

Storage

After reconstitution, the QTRT2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.