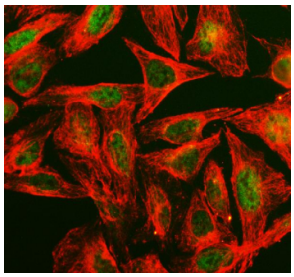
PPIH Antibody / Peptidyl-prolyl cis-trans isomerase H (FY12973)

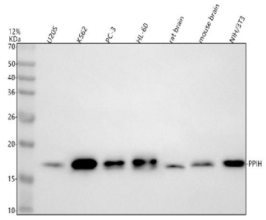
Catalog No.	Formulation	Size
FY12973	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
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	O43447
Localization	Nuclear, cytoplasmic
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This PPIH antibody is available for research use only.



Immunofluorescent staining of PPIH using anti-PPIH antibody (green) and anti-Beta Tubulin antibody (red). PPIH was detected in an immunocytochemical section of U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-PPIH antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of PPIH using anti-PPIH antibody. Electrophoresis was performed on a 12% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human U20S whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human PC-3 whole cell lysates, Lane 4: human HL-60 whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: mouse brain tissue lysates, Lane 7: mouse NIH/3T3 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-PPIH 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. A specific band was detected for PPIH at approximately 19 kDa. The expected molecular weight of PPIH is ~19 kDa.

Description

PPIH antibody detects Peptidyl-prolyl cis-trans isomerase H, a cyclophilin family enzyme that assists in protein folding and pre-mRNA splicing. The UniProt recommended name is Peptidyl-prolyl cis-trans isomerase H (PPIH), also known as Cyclophilin H. PPIH catalyzes the cis-trans isomerization of peptide bonds preceding proline residues, a rate-limiting step in protein folding and conformational regulation.

Functionally, PPIH antibody identifies a 177-amino-acid protein localized primarily in the nucleus, where it associates with the spliceosome machinery. PPIH is a component of the U4/U6.U5 tri-snRNP complex, interacting with PRPF4, SNU13, and other splicing factors. Through its isomerase activity, PPIH facilitates conformational rearrangements necessary for spliceosome assembly and catalysis. Beyond its role in RNA splicing, PPIH also contributes to protein folding and trafficking, reflecting its general chaperone-like activity within the cyclophilin family.

The PPIH gene is located on chromosome 1p34.2 and encodes a protein containing a single cyclophilin-type peptidyl-prolyl isomerase (PPIase) domain. PPIH is structurally similar to other cyclophilins such as PPIA and PPIL1 but exhibits specialized interactions within the spliceosome. Its enzymatic activity accelerates folding of substrates containing cis-proline bonds, influencing the conformation of RNA-binding proteins and enzymes involved in gene expression.

Loss or inhibition of PPIH function affects pre-mRNA splicing efficiency and fidelity, leading to transcriptome-wide alterations. Dysregulation of PPIH expression has been observed in cancer and neurodegenerative diseases, suggesting roles in RNA metabolism and stress response. In cell signaling, PPIH interacts with transcription and export factors, linking splicing to mRNA maturation and nuclear export.

PPIH antibody is used to study RNA processing, protein folding, and chaperone function. It is applicable for immunoblotting, immunoprecipitation, and fluorescence microscopy to examine PPIH localization and protein-protein interactions. In structural biology, PPIH serves as a model enzyme for studying cyclophilin catalytic mechanisms. Its sensitivity to cyclosporine A highlights its functional conservation across cyclophilins and its potential involvement in immunomodulatory pathways.

Structurally, PPIH features a conserved beta-barrel fold typical of cyclophilins, with a hydrophobic active site pocket that accommodates the proline-containing peptide bond. It is post-translationally regulated by phosphorylation and complex assembly within spliceosomal subunits. NSJ Bioreagents provides PPIH antibody reagents validated for research in RNA biology, splicing regulation, and protein folding mechanisms.

Application Notes

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

Immunogen

E.coli-derived human PPIH recombinant protein (Position: M1-M177) was used as the immunogen for the PPIH antibody.

Storage

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