![NSJ BIOREAGENTS logo]

PRPF31 Antibody / Pre-mRNA processing factor 31 [clone 29P97] (FY13040)

Catalog No.	Formulation	Size
FY13040	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	29P97
Purity	Affinity chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	Q8WWY3
Applications	Western Blot : 1:500-1:2000 Immunocytochemistry/Immunofluorescence : 1:50-1:200 Flow Cytometry : 1:50
Limitations	This PRPF31 antibody is available for research use only.
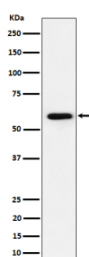
Western blot analysis of PRPF31 expression in human Jurkat cell lysate using the PRPF31 antibody. Predicted molecular weight ~55 kDa.

Description

PRPF31 antibody detects Pre-mRNA processing factor 31, encoded by the PRPF31 gene. Pre-mRNA processing factor 31 is a component of the spliceosome, the large ribonucleoprotein complex responsible for removing introns from

precursor mRNAs. It is specifically part of the U4/U6.U5 tri-snRNP complex, where it plays an essential role in spliceosome assembly and stability. PRPF31 antibody provides researchers with a critical reagent for studying splicing regulation, gene expression, and inherited retinal disease caused by PRPF31 mutations.

Pre-mRNA processing factor 31 is indispensable for the assembly of the U4/U6.U5 tri-snRNP, which integrates into the spliceosome during pre-mRNA splicing. Research using PRPF31 antibody has demonstrated that loss of this protein disrupts tri-snRNP stability, preventing proper spliceosome activation and leading to defective intron removal. This highlights the importance of PRPF31 in maintaining gene expression fidelity and explains why its mutations cause tissue-specific disease despite its general role in splicing.

Mutations in PRPF31 are a well-established cause of autosomal dominant retinitis pigmentosa, a degenerative eye disease characterized by progressive photoreceptor cell death and vision loss. Studies with PRPF31 antibody have shown that reduced protein expression, often due to haploinsufficiency, leads to insufficient splicing activity in retinal cells. This impairs photoreceptor survival and contributes to disease progression. The link between PRPF31 and retinal degeneration underscores the importance of splicing factors in tissue-specific pathologies.

Beyond retinitis pigmentosa, alterations in splicing machinery are increasingly recognized in cancer and neurodegeneration. PRPF31 antibody has been used to examine expression in tumors, where splicing factor mutations or dysregulation contribute to aberrant gene expression. In neurological disease, spliceosome defects are emerging as contributors to motor neuron degeneration and other pathologies. Studying Pre-mRNA processing factor 31 provides insight into how splicing fidelity influences cell fate and disease susceptibility.

PRPF31 antibody is applied in western blotting, immunohistochemistry, and immunofluorescence. Western blotting confirms expression levels across tissues, immunohistochemistry highlights nuclear localization, and immunofluorescence shows colocalization with spliceosome markers. Functional studies using PRPF31 antibody include knockdown and rescue experiments to establish causal relationships between reduced PRPF31 and splicing defects. These diverse applications make it an indispensable tool for RNA biology research.

By providing validated PRPF31 antibody reagents, NSJ Bioreagents supports research into RNA splicing, retinal disease, and cancer. Detection of Pre-mRNA processing factor 31 provides researchers with a means to explore the fundamental role of splicing in health and pathology.

Application Notes
Optimal dilution of the PRPF31 antibody should be determined by the researcher.

Immunogen
A synthesized peptide derived from human PRPF31 was used as the immunogen for the PRPF31 antibody.

Storage
Store the PRPF31 antibody at -20oC.