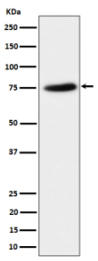
PPM1G Antibody / Protein phosphatase 1G [clone 29P73] (FY13013)

Catalog No.	Formulation	Size
FY13013	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, Mouse, Rat
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	29P73
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	O15355
Applications	Western Blot : 1:500-1:2000
Limitations	This PPM1G antibody is available for research use only.



Western blot analysis of PPM1G expression in HeLa cell lysate. Predicted molecular weight ~59 kDa, commonly observed at 59-75 kDa.

Description

PPM1G antibody detects Protein phosphatase 1G, encoded by the PPM1G gene. Protein phosphatase 1G belongs to the PP2C family of serine threonine phosphatases, which are magnesium or manganese dependent enzymes involved in negative regulation of cell signaling. PPM1G dephosphorylates specific substrates to modulate cell cycle progression, DNA damage repair, pre mRNA splicing, and chromatin remodeling. PPM1G antibody is a versatile reagent for exploring how phosphatase activity contributes to cellular regulation and disease.

Protein phosphatase 1G has been implicated in regulation of the G2/M transition of the cell cycle. Research using PPM1G antibody has shown that depletion of this phosphatase delays mitotic entry and leads to accumulation of phosphorylated cyclin dependent kinase substrates. By reversing phosphorylation of key regulators, PPM1G ensures proper timing of mitotic onset. Its involvement in cell cycle checkpoints makes it critical for maintaining genomic stability and preventing uncontrolled proliferation.

PPM1G also plays a role in DNA damage responses. Studies using PPM1G antibody have demonstrated that it dephosphorylates histone H2AX and other chromatin associated substrates, facilitating repair and chromatin restoration following DNA double strand breaks. This highlights its function as a chromatin associated phosphatase linking signaling pathways to epigenetic control. Dysregulation of PPM1G expression or activity may impair DNA repair, contributing to mutagenesis and cancer susceptibility.

In addition to DNA repair and cell cycle regulation, PPM1G is involved in pre mRNA splicing. By dephosphorylating components of the spliceosome, it regulates splicing factor dynamics and mRNA maturation. Research with PPM1G antibody has revealed that it controls alternative splicing patterns and transcriptional responses, linking phosphatase activity to gene expression. This broadens its functional impact beyond canonical phosphatase roles and highlights its integration into multiple layers of gene regulation.

PPM1G antibody is widely applied in western blotting, immunohistochemistry, and immunoprecipitation. Western blotting demonstrates expression across proliferative tissues, while immunohistochemistry localizes the phosphatase in nuclei of dividing cells. Immunoprecipitation with PPM1G antibody isolates its complexes, enabling characterization of substrates and interaction partners. Together, these approaches make PPM1G antibody an important tool for studying signaling, genome maintenance, and transcriptional regulation.

By supplying validated PPM1G antibody reagents, NSJ Bioreagents supports research into phosphatase biology, DNA repair, and cell cycle regulation. Detection of Protein phosphatase 1G enhances our understanding of how dephosphorylation contributes to cellular control and disease mechanisms.

Application Notes

Optimal dilution of the PPM1G antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human PPM1G was used as the immunogen for the PPM1G antibody.

Storage

Store the PPM1G antibody at -20oC.