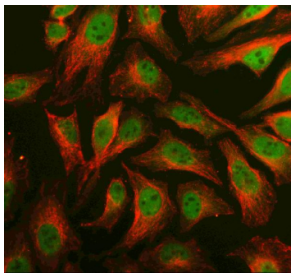
PRDM6 Antibody / PR domain zinc finger protein 6 (FY12372)

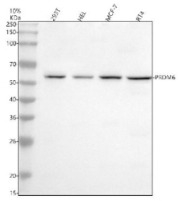
Catalog No.	Formulation	Size
FY12372	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

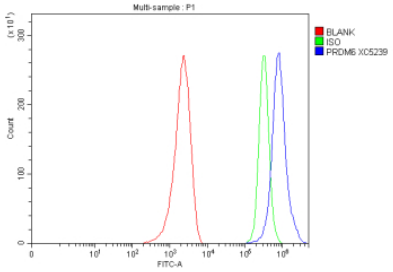
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9NQX0
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PRDM6 antibody is available for research use only.



Immunofluorescent staining of PRDM6 using anti-PRDM6 antibody (green) and anti-Beta Tubulin antibody (red). PRDM6 was detected in an immunocytochemical section of Hela 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-PRDM6 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 PRDM6 using anti-PRDM6 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human 293T whole cell lysates, Lane 2: human HEL whole cell lysates, Lane 3: human MCF-7 whole cell lysates, Lane 4: human RT4 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-PRDM6 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 PRDM6 is ~61 kDa.



Flow Cytometry analysis of MCF-7 cells using anti-PRDM6 antibody. Overlay histogram showing MCF-7 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-PRDM6 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

The PRDM6 antibody targets PR domain zinc finger protein 6, a transcriptional repressor encoded by the PRDM6 gene. This protein is a member of the PRDM family, which combines a PR (PRDI-BF1 and RIZ1 homology) domain with multiple C2H2-type zinc fingers to regulate chromatin structure and gene expression. PR domain zinc finger protein 6 acts as an epigenetic modulator that influences vascular smooth muscle cell (VSMC) differentiation, proliferation, and contractility. The PRDM6 antibody allows precise detection of this transcriptional regulator, supporting studies into vascular development, remodeling, and disease.

PR domain zinc finger protein 6 functions as a transcriptional repressor by recruiting histone methyltransferases and corepressor complexes, leading to trimethylation of histone H3 on lysine 9 (H3K9me3) and gene silencing. It is preferentially expressed in smooth muscleÃ¯Â¿Â½derived lineages where it regulates genes controlling contractile protein synthesis and cell fate. The PRDM6 antibody provides a reliable means to monitor expression changes during phenotypic switching of VSMCs between contractile and proliferative states, a process central to vascular injury response and atherosclerosis.

Loss-of-function mutations in PRDM6 have been associated with patent ductus arteriosus (PDA) and other congenital heart defects. These variants impair transcriptional repression of target genes involved in vascular maturation. The PRDM6 antibody facilitates investigation into such pathogenic mechanisms by allowing detection of wild-type and mutant protein forms. In developmental studies, PR domain zinc finger protein 6 has been shown to coordinate the balance between smooth muscle proliferation and differentiation during embryogenesis, acting downstream of BMP and TGF-beta signaling pathways.

Beyond cardiovascular biology, PR domain zinc finger protein 6 has been implicated in oncogenesis through its role in epigenetic gene silencing. Aberrant PRDM6 expression or methylation patterns have been observed in multiple cancer types, suggesting that dysregulation of this transcriptional repressor contributes to uncontrolled cell growth. The PRDM6 antibody enables detailed exploration of its epigenetic regulatory activity in cancer and stem cell systems, providing insight into how histone modification and chromatin structure impact disease progression.

The PRDM6 antibody performs effectively in western blotting, immunofluorescence, and immunohistochemistry, showing predominant nuclear localization consistent with its transcriptional role. NSJ Bioreagents provides this antibody with

validated specificity and consistency for use in molecular biology, vascular research, and epigenetic studies. By facilitating detailed analysis of PR domain zinc finger protein 6 expression and function, the PRDM6 antibody supports ongoing research into vascular development, gene regulation, and the epigenetic mechanisms that govern smooth muscle cell behavior.

Application Notes

Optimal dilution of the PRDM6 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PRDM6 recombinant protein (Position: R165-R452) was used as the immunogen for the PRDM6 antibody.

Storage

After reconstitution, the PRDM6 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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