

#14693 Store at -20°C

## PTPN22 (D6D1H) Rabbit mAb



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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M	Endogenous	98	Rabbit IgG	#Q9Y2R2	26191

### Product Usage Information

#### Application

Western Blotting  
Immunoprecipitation

#### Dilution

1:1000  
1:100

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

### Specificity / Sensitivity

PTPN22 (D6D1H) Rabbit mAb recognizes endogenous levels of total PTPN22 protein.

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro451 of human PTPN22 protein.

### Background

PTPN22 (Lyp/PEP) is a cytoplasmic phosphatase expressed by hematopoietic cells (1,2). PTPN22 associates with the tyrosine kinase Csk to inhibit T cell receptor signaling through inactivation of Src kinases (3,4). Csk phosphorylates Src kinases on an inhibitory tyrosine, while PTPN22 dephosphorylates an activating site (4). PTPN22(-/-) mice have higher levels of activated Lck than wild-type, resulting in greater T cell expansion and increased serum antibody levels (5). Research studies have shown that a single-nucleotide polymorphism, 1858T of the PTPN22 gene which encodes the amino acid substitution R620W, confers increased risk for multiple autoimmune diseases including type I diabetes, rheumatoid arthritis, systemic lupus erythematosus, and Graves disease (6-9). Interestingly, although the R620W substitution disrupts the interaction between Csk and PTPN22, it is actually a gain-of-function mutation resulting in increased phosphatase activity (6,10,11). Recent evidence suggests that the autoimmune phenotype associated with the R620W variant is the result of increased calpain-mediated degradation and decreased protein levels of PTPN22 (12).

### Background References

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### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**WB:** Western Blotting **IP:** Immunoprecipitation

### Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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