



E91406

## PTPN22 Polyclonal Antibody

- Catalog Number:** E91406
- Amount:** 100ul
- 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).
- Species:** Rabbit
- Isotype:** IgG
- Storage/Stability:** Store at -20oC or -80oC. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
- Synonyms:** LYP; LYP1; LYP2; PEP; PTPN8; PTPN22;
- Immunogen:** Recombinant protein of human PTPN22
- Purification:** Affinity purification
- Reactivity:** H M R
- Applications:** WB IHC
- Molecular Weight:** 92kDa
- Swiss-Prot No. :** Q9Y2R2
- Gene ID:** 26191
- References:** 1. Cohen, S. et al. (1999) Blood 93, 2013-24. 2. Matthews, R.J. et al. (1992) Mol Cell Biol 12, 2396-405. 3. Cloutier, J.F. and Veillette, A. (1996) EMBO J 15, 4909-18. 4. Cloutier, J.F. and Veillette, A. (1999) J Exp Med 189, 111-21. 5. Hasegawa, K. et al. (2004) Science 303, 685-9. 6. Bottini, N. et al. (2004) Nat Genet 36, 337-8. 7. Begovich, A.B. et al. (2004) Am J Hum Genet 75, 330-7. 8. Kyogoku, C. et al. (2004) Am J Hum Genet 75, 504-7. 9. Velaga, M.R. et al. (2004) J Clin Endocrinol Metab 89, 5862-5. 10. Vang, T. et al. (2005) Nat Genet 37, 1317-9. 11. Rieck, M. et al. (2007) J Immunol 179, 4704-10. 12. Zhang, J. et al. (2011) Nat Genet 43, 902-7.

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