

PTP22 (H-253): sc-134782

BACKGROUND

The protein tyrosine phosphatase PTPN22 (PTP22, LYP, PEP, formerly PTPN8) is a genetic variant that confers risk of developing diverse human autoimmune diseases such as type 1 diabetes and rheumatoid arthritis. The minor allele of a missense SNP in PTPN22 encodes a hematopoietic-specific protein tyrosine phosphatase also known as "Lyp". The risk allele is present in about 17% of Caucasian individuals from the general population and in approximately 28% of Caucasian individuals with rheumatoid arthritis; it is thought to disrupt the P1 proline-rich motif that is important for interaction with the Src homology-3 (SH3) domain of Csk (cytoplasmic tyrosine kinase), potentially altering the normal functions of these proteins as negative regulators of T cell activation. The interaction between Csk and PTPN22 is highly specific and it is speculated that PTPN22 may be an effector and/or regulator of Csk in T cells and other hematopoietic cells.

REFERENCES

1. Cloutier, J.F., et al. 1996. Association of inhibitory tyrosine protein kinase p50Csk with protein tyrosine phosphatase PEP in T cells and other hemopoietic cells. *EMBO J.* 15: 4909-4918.
2. Cohen, S., et al. 1999. Cloning and characterization of a lymphoid-specific, inducible human protein tyrosine phosphatase, Lyp. *Blood* 93: 2013-2024.
3. Siminovitch, K.A. 2004. PTPN22 and autoimmune disease. *Nat. Genet.* 36: 1248-1249.
4. Cantón, I., et al. 2005. A single-nucleotide polymorphism in the gene encoding lymphoid protein tyrosine phosphatase (PTPN22) confers susceptibility to generalised vitiligo. *Genes Immun.* 6: 584-587.
5. Reddy, M.V., et al. 2005. The R620W C/T polymorphism of the gene PTPN22 is associated with SLE independently of the association of PDCD1. *Genes Immun.* 6: 658-662.
6. Simkins, H.M., et al. 2005. Association of the PTPN22 locus with rheumatoid arthritis in a New Zealand Caucasian cohort. *Arthritis Rheum.* 52: 2222-2225.
7. Balada, E., et al. 2006. Lack of association of the PTPN22 gene polymorphism R620W with systemic sclerosis. *Clin. Exp. Rheumatol.* 24: 321-324.

CHROMOSOMAL LOCATION

Genetic locus: PTPN22 (human) mapping to 1p13.2.

SOURCE

PTP22 (H-253) is a rabbit polyclonal antibody raised against amino acids 363-615 mapping within an internal region of PTP22 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

PTP22 (H-253) is recommended for detection of PTP22 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PTP22 siRNA (h): sc-61419, PTP22 shRNA Plasmid (h): sc-61419-SH and PTP22 shRNA (h) Lentiviral Particles: sc-61419-V.

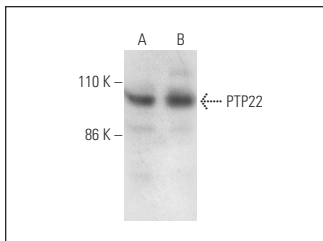
Molecular Weight of PTP22: 105 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136 or U-698-M whole cell lysate: sc-364799.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PTP22 (H-253): sc-134782. Western blot analysis of PTP22 expression in HEK293 (A) and U-698-M (B) whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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Try **PTP22 (E-5): sc-393766**, our highly recommended monoclonal alternative to PTP22 (H-253).