

PTP22 (M-139): sc-134783

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

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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.
8. Chabchoub, G., et al. 2006. Polymorphisms in the protein tyrosine phosphatase (PTPN22) gene is not associated with autoimmune thyroid in a large affected Tunisian family. *Clin. Immunol.* 120: 235-236.
9. Ray, D., et al. 2006. Protein tyrosine phosphatase non-receptor type 22 (PTPN22) gene R620W variant and sporadic idiopathic hypoparathyroidism in Asian Indians. *Int. J. Immunogenet.* 33: 237-240.

CHROMOSOMAL LOCATION

Genetic locus: Ptpn22 (mouse) mapping to 3 F3.

SOURCE

PTP22 (M-139) is a rabbit polyclonal antibody raised against amino acids 368-506 mapping within an internal region of PTP22 of mouse origin.

PRODUCT

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

APPLICATIONS

PTP22 (M-139) is recommended for detection of PTP22 of mouse and rat 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 siRNA (m): sc-61420, PTP22 shRNA Plasmid (h): sc-61419-SH, PTP22 shRNA Plasmid (m): sc-61420-SH, PTP22 shRNA (h) Lentiviral Particles: sc-61419-V and PTP22 shRNA (m) Lentiviral Particles: sc-61420-V.

Molecular Weight of PTP22: 105 kDa.

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.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


 MONOS
 Satisfaction
 Guaranteed

Try **PTP22 (G-3): sc-376349**, our highly recommended monoclonal alternative to PTP22 (M-139).