

PTP22 (C-20): sc-48920

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. and Veillette, A. 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.

CHROMOSOMAL LOCATION

Genetic locus: PTPN22 (human) mapping to 1p13.2; Ptpn22 (mouse) mapping to 3 F2.2.

SOURCE

PTP22 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-48920 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PTP22 (C-20) is recommended for detection of PTP22 isoform 1 of mouse, rat and 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).

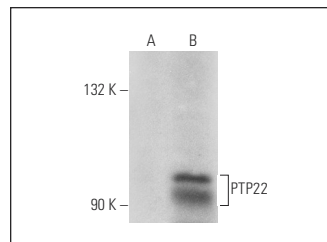
PTP22 (C-20) is also recommended for detection of PTP22 isoform 1 in additional species, including equine, canine and porcine.

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.

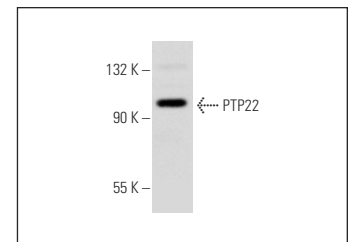
Molecular Weight of PTP22: 105 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or PTP22 (h): 293T Lysate: sc-117396.

DATA



PTP22 (C-20) : sc-48920. Western blot analysis of PTP22 expression in non-transfected: sc-117752 (A) and human PTP22 transfected: sc-117396 (B) 293T whole cell lysates.



PTP22 (C-20) : sc-48920. Western blot analysis of PTP22 expression in Jurkat whole cell lysate.

STORAGE

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

PROTOCOLS

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



Try **PTP22 (E-5): sc-393766** or **PTP22 (G-3): sc-376349**, our highly recommended monoclonal alternatives to PTP22 (C-20).