SANTA CRUZ BIOTECHNOLOGY, INC.

PTP22 (T-16): sc-48922

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 3q13.33; Ptpn22 (mouse) mapping to 3 F3.

SOURCE

PTP22 (T-16) is an affinity purified goat polyclonal antibody raised against a peptide 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.

Blocking peptide available for competition studies, sc-48922 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 (T-16) is recommended for detection of PTP22 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).

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.

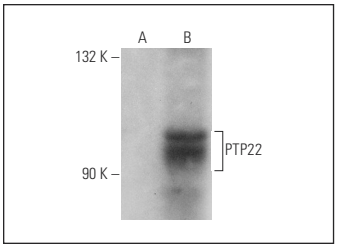
Molecular Weight of PTP22: 105 kDa.

Positive Controls: PTP22 (h): 293T Lysate: sc-117396.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PTP22 (T-16): sc-48922. Western blot analysis of PTP22 expression in non-transfected: sc-117752 (**A**) and human PTP22 transfected: sc-117396 (**B**) 293T whole cell lysates.

STORAGE

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

MONOS Satisfaction Guaranteed

Try **PTP22 (E-5): sc-393766** or **PTP22 (G-3): sc-376349**, our highly recommended monoclonal alternatives to PTP22 (T-16).