

Product Information

Anti-PTPN2

produced in rabbit, affinity isolated antibody

Catalog Number **SAB4200249**

Product Description

Anti-PTPN2 is produced in rabbit using as immunogen a synthetic peptide corresponding to a sequence located near the C-terminus of human PTPN2 (GeneID 5771) conjugated to KLH. The corresponding sequence is identical in human PTPN2 isoform 2 and highly conserved (single amino acid substitution) in mouse PTPN2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-PTPN2 specifically recognizes human, rat and mouse PTPN2. The antibody can be used in several immunochemical techniques including immunoblotting (~48 kDa). Detection of the PTPN2 band by immunoblotting is specifically inhibited by the PTPN2 immunizing peptide.

PTPN2 (also known as TCPTP), is an intracellular non-receptor tyrosine-specific phosphatase that is expressed ubiquitously at various stages of mammalian development.^{1,2} PTPN2/TCPTP has been implicated as a negative regulator in multiple signaling pathways, and specifically in the regulation of the immune response. It has been associated with autoimmune and inflammatory diseases. TCPTP knockout mice display defects in hematopoiesis, indicating a critical role for TCPTP in immune homeostasis.³ PTPN2 acts on several cytoplasmic substrates including EGFR, insulin receptor (InsR), Shc, JAKs, and the nuclear substrate STAT1.^{2,3} PTPN2 exists as two alternatively spliced variants, PTPN2 isoform 1 (p48TC, 48 kDa) that is targeted to the endoplasmic reticulum by a hydrophobic C-terminal region, and a shorter PTPN2 isoform 2 (p45TC, 45 kDa) that is targeted to the nucleus.³ Both isoform share identical catalytic domains and recognize common substrates, e.g., EGFR and InsR, but they are thought to play distinct cellular roles *in vivo*. PTPN2 has been associated with type 1 diabetes. Recently, PTPN2 has been identified as a Crohn's disease (CD) candidate gene involved in the pathophysiology of CD, and has been suggested to play a functional role in protecting the intestinal epithelial barrier.^{4,5}

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working antibody concentration of 1.5-3.0 µg/mL is recommended using Jurkat cell extracts, rat kidney extracts (S1 fraction) or mouse kidney extracts (S1 fraction).

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Tonks, N.K., *Nat. Rev. Mol. Cell Biol.*, **7**, 833-846 (2006).
2. Ibarra-Sánchez, M.J., et al., *Semin. Immunol.*, **12**, 379-386 (2000).
3. Simoncic, P.D., et al., *Can. J. Physiol. Pharmacol.*, **84**, 667-675 (2006).
4. Barrett, J.C., et al., *Nat. Genet.*, **40**, 955-962 (2008).
5. Scharl, M., et al., *Gastroenterol.*, **137**, 2030-2040 (2009).

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