

Mouse anti-T-cell protein tyrosine phosphatase, TC-PTP (6F3), #MM-0019-P

DATASHEET

Product name: T-cell protein tyrosine phosphatase (TC-PTP) antibody

Background information: The protein tyrosine phosphatase (PTP) belongs to a large family of enzymes involved in the regulation of cellular signaling and homeostasis, each possessing a 240 amino acid PTP domain. The T-cell protein tyrosine phosphatase (TC-PTP) is predominantly expressed in the hematopoietic lineage. TC-PTP null mice suffer severe defects in the hematopoietic compartment and die at 3-5 weeks of age from severe anemia. TC-PTP ^{-/-} murine embryonic fibroblasts have a slow progression through the G1 phase of the cell cycle and have compromised NF- κ B activation. JAK 1 and 3 have been identified as physiological substrates of TC-PTP. Recent genetic studies have revealed an association between the PTPN2 (TC-PTP) gene and diseases like type 1 diabetes and Crohn's disease.

Product description: A specific and sensitive antibody against T-cell protein tyrosine phosphatase.

Format: 100 μ g of lyophilized, purified antibody. **Reconstitute in 100 μ l of distilled H₂O for 1 μ g/ μ l.** It contains no additives.

Species: Mouse

Clonality: Monoclonal

Isotype: IgG1

Reactivity / specificity: The antibody recognizes the C-terminal portion of TC-PTP; when used for Western blots the antibody detects one band in MEF cells extract, and 2 bands in spleen extract. The antibody recognizes 4 bands of TC-PTP from monkey.

Specific for: mouse and rat,; other species not tested.

Applications: Immunoprecipitation (IP), Western blot (WB)

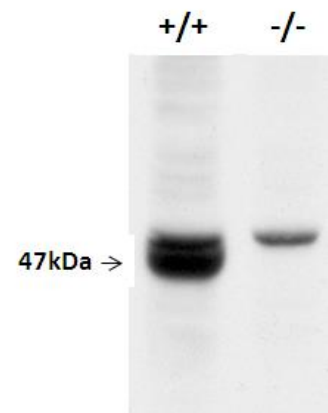
Recommended starting dilutions: If reconstituted in 100 μ l: WB 1:2000. Optimal dilution has to be determined by the user.

Storage: Lyophilized antibody can be kept at 4°C for up to 3 months and should be kept at -20°C for long-term storage. To avoid freeze-thaw cycles, reconstituted antibody should be aliquoted before freezing for short-term storage (-20°C) or for long-term storage (-80°C). For maximum recovery of product, centrifuge the original vial prior to removing the cap. Further dilutions can be made in assay buffer.

Stability: Minimum 1 year from reception date.

References:

1. Wiede, F., Sacirbegovi, F., Leong, Y.A., Yu, D., and Tiganis, T. (2016). PTPN2-deficiency exacerbates T follicular helper cell and B cell responses and promotes the development of autoimmunity. *J Autoimmun* S0896-8411, 30144-30145.



Western blot of TC-PTP expression in mouse Embryonic fibroblasts. TC-PTP wild type (+/+) and knock out (-/-).

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- Young, R.M., Polsky, A., and Refaeli, Y. (2009). TC-PTP is required for the maintenance of MYC-driven B-cell lymphomas. *Blood* 114, 5016-5023.
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- Ibarra-Sanchez, M.d.J., Wagner, J., Ong, M.-T., Lampron, C., and Tremblay, M.L. (2001). Murine embryonic fibroblasts lacking TC-PTP display delayed G1 phase through defective NF-kappaB activation. *Oncogene* 20, 4728-4739.

Limitations: This product is to be used for research purposes only.