

#58935 Store at -20°C

TCPTP (TC45) (D7T7D) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Hm Mk	Endogenous	45	Rabbit IgG	#P17706-2	5771

Product Usage Information	Application Western Blotting Immunoprecipitation	Dilution 1:1000 1:50
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	TCPTP (TC45) (D7T7D) Rabbit mAb recognizes endogenous levels of total TCPTP (TC45) protein. This antibody does not recognize the 48 kDa (TC48) isoform.	
Species predicted to react based on 100% sequence homology:	Bovine, Dog, Pig	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro382 of human TCPTP (TC45) protein.	
Background	T cell protein tyrosine phosphatase (TCPTP, PTPN2, PTN2) is a non-receptor protein tyrosine phosphatase (PTP) that regulates signal transduction pathways by catalyzing the dephosphorylation of tyrosine residues (1). Two described TCPTP splice variants include a 48 kDa isoform (TC48) that is targeted to secretory pathway organelles (e.g., endoplasmic reticulum) by a hydrophobic carboxy terminus, and a 45 kDa isoform (TC45) that actively shuttles between the nucleus and cytoplasm (2). TCPTP substrates include receptor and non-receptor tyrosine kinases, such as EGFR, JAK1/3, and Src-family kinases, as well as STAT3 and other nuclear substrates (3-6). Research studies show that the corresponding <i>PTPN2</i> gene is deleted in a subset of human T-cell acute lymphoblastic leukemias. The loss of TCPTP has been suggested to promote tumor progression through enhanced JAK/STAT signaling (7,8).	
Background References	1. Muppirala, M. et al. (2013) <i>Biochim Biophys Acta</i> 1833, 1125-32. 2. Lorenzen, J.A. et al. (1995) <i>J Cell Biol</i> 131, 631-43. 3. Simoncic, P.D. et al. (2002) <i>Curr Biol</i> 12, 446-53. 4. Tiganis, T. et al. (1998) <i>Mol Cell Biol</i> 18, 1622-34. 5. van Vliet, C. et al. (2005) <i>Nat Immunol</i> 6, 253-60. 6. Fukushima, A. et al. (2010) <i>Diabetes</i> 59, 1906-14. 7. Kleppe, M. et al. (2010) <i>Nat Genet</i> 42, 530-5. 8. Kleppe, M. et al. (2011) <i>Blood</i> 117, 7090-8.	

Species Reactivity	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
Western Blot Buffer	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	WB: Western Blotting IP: Immunoprecipitation
Cross-Reactivity Key	H: human M: mouse R: rat Hm: hamster Mk: monkey Vir: virus Mi: mink C: chicken Dm: D. melanogaster X: Xenopus Z: zebrafish B: bovine Dg: dog Pg: pig Sc: S. cerevisiae Ce: C. elegans Hr: horse GP: Guinea Pig Rab: rabbit All: all species expected

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