

**PTPRC Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1887a****Specification****PTPRC Antibody - Product Information**

Application	<b>E, WB, IHC</b>
Primary Accession	<a href="#">P08575</a>
Reactivity	<b>Human</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>147.3kDa KDa</b>

**Description**

The protein encoded by this gene is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitosis, and oncogenic transformation. This PTP contains an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains, and thus is classified as a receptor type PTP. This PTP has been shown to be an essential regulator of T- and B-cell antigen receptor signaling. It functions through either direct interaction with components of the antigen receptor complexes, or by activating various Src family kinases required for the antigen receptor signaling. This PTP also suppresses JAK kinases, and thus functions as a regulator of cytokine receptor signaling. Alternatively spliced transcripts variants of this gene, which encode distinct isoforms, have been reported.

**Immunogen**

Purified recombinant fragment of human PTPRC (AA: 928-989) expressed in E. Coli.

**Formulation**

Purified antibody in PBS with 0.05% sodium azide

**PTPRC Antibody - Additional Information**

**Gene ID** 5788

**Other Names**

Receptor-type tyrosine-protein phosphatase C, 3.1.3.48, Leukocyte common antigen, L-CA, T200, CD45, PTPRC, CD45

**Dilution**

E~~1/10000  
WB~~1/500 - 1/2000  
IHC~~1/200 - 1/1000

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

PTPRC Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## **PTPRC Antibody - Protein Information**

**Name** PTPRC ([HGNC:9666](#))

**Synonyms** CD45

### **Function**

Protein tyrosine-protein phosphatase required for T-cell activation through the antigen receptor (PubMed:<a href="http://www.uniprot.org/citations/35767951" target="\_blank">35767951</a>). Acts as a positive regulator of T-cell coactivation upon binding to DPP4. The first PTPase domain has enzymatic activity, while the second one seems to affect the substrate specificity of the first one. Upon T-cell activation, recruits and dephosphorylates SKAP1 and FYN. Dephosphorylates LYN, and thereby modulates LYN activity (By similarity).

### **Cellular Location**

Cell membrane; Single-pass type I membrane protein. Membrane raft. Synapse. Note=Colocalized with DPP4 in membrane rafts.

### **Tissue Location**

Isoform 1: Detected in thymocytes. Isoform 2: Detected in thymocytes. Isoform 3: Detected in thymocytes. Isoform 4: Not detected in thymocytes. Isoform 5: Detected in thymocytes. Isoform 6: Not detected in thymocytes. Isoform 7: Detected in thymocytes Isoform 8: Not detected in thymocytes.

## **PTPRC Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

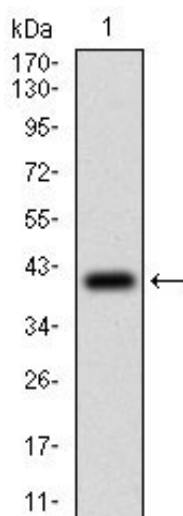
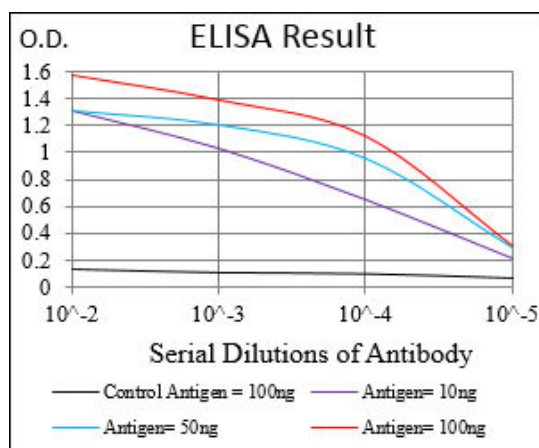


Figure 1: Western blot analysis using PTPRC mAb against human PTPRC (AA: 928-989) recombinant protein. (Expected MW is 33 kDa)

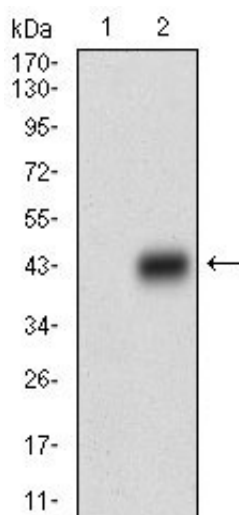


Figure 2: Western blot analysis using PTPRC mAb against HEK293 (1) and PTPRC (AA: 928-989)-hlgGFc transfected HEK293 (2) cell lysate.

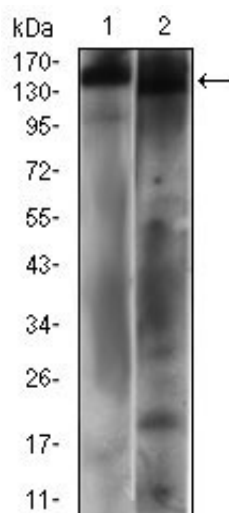


Figure 3: Western blot analysis using PTPRC mouse mAb against Hela (1) and A431 (2) cell lysate.

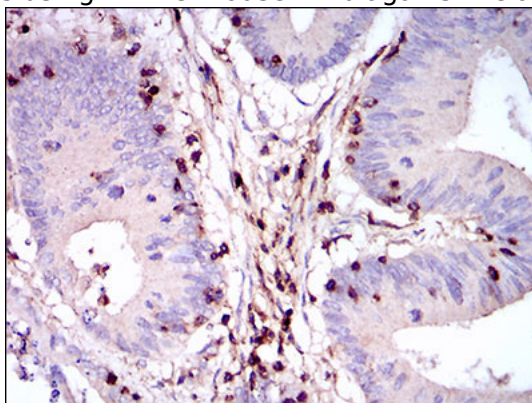


Figure 4: Immunohistochemical analysis of paraffin-embedded colon cancer tissues using PTPRC mouse mAb with DAB staining.

### PTPRC Antibody - Background

The protein encoded by this gene is a member of the protein tyrosine phosphatase (PTP) family. PTPs are known to be signaling molecules that regulate a variety of cellular processes including cell growth, differentiation, mitosis, and oncogenic transformation. This PTP contains an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains, and thus is classified as a receptor type PTP. This PTP has been shown to be an essential regulator of T- and B-cell antigen receptor signaling. It functions through either direct interaction with components of the antigen receptor complexes, or by activating various Src family kinases required for the antigen receptor signaling. This PTP also suppresses JAK kinases, and thus functions as a regulator of cytokine receptor signaling. Alternatively spliced transcripts variants of this gene, which encode distinct isoforms, have been reported. ; ; ;

### PTPRC Antibody - References

1. Biochem Biophys Res Commun. 2012 Mar 23;419(4):708-14.
2. Blood. 2009 Jun 4;113(23):5905-10.