10320 Camino Santa Fe, Suite G
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PTPRC Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1889a

Specification

PTPRC Antibody - Product Information

Application	**E, WB, IHC**
Primary Accession	P08575
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**147.3kDa KDa**

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:35767951). 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 Cytomety
- Cell Culture

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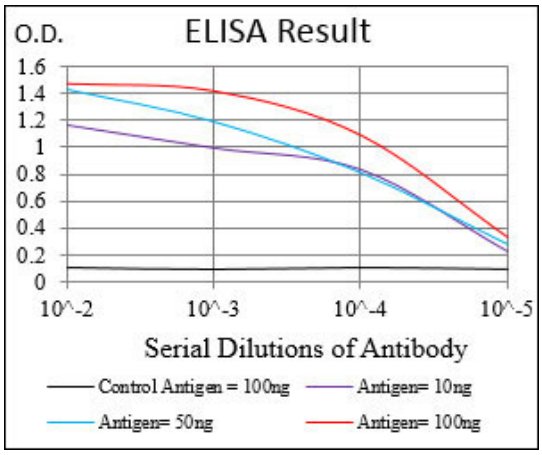

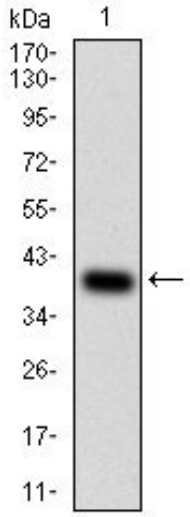

Figure 1: Western blot analysis using PTPRC mAb against human PTPRC (AA: 928-989) recombinant protein. (Expected MW is 33 kDa)

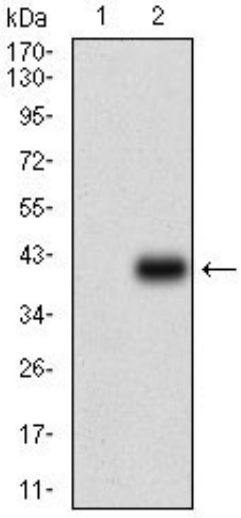

Figure 2: Western blot analysis using PTPRC mAb against HEK293 (1) and PTPRC (AA: 928-989)-hIgGFc transfected HEK293 (2) cell lysate.

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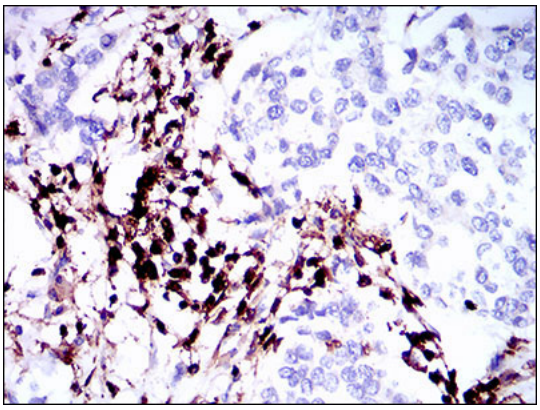

Figure 3: Immunohistochemical analysis of paraffin-embedded breast cancer tissues using PTPRC mouse mAb with DAB staining.

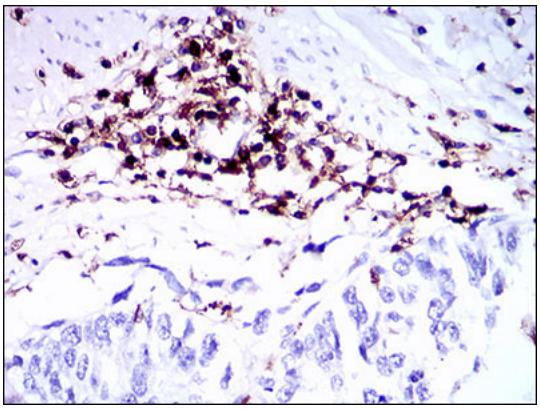

Figure 4: Immunohistochemical analysis of paraffin-embedded esophageal cancer tissues using PTPRC mouse mAb with DAB staining.

PTPRC Antibody - Background

The protein encoded by this gene is a surface antigen that is preferentially expressed on monocytes/macrophages. It cooperates with other proteins to mediate the innate immune response to bacterial lipopolysaccharide. Alternative splicing results in multiple transcript variants encoding the same protein. ; ;

PTPRC Antibody - References

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