Data Sheet (Cat.No.TMPY-03468)

TargetMol

CD45 Protein, Mouse, Recombinant (aa 453-1152)

General Information

Synonyms:	loc;Lyt-4;protein tyrosine phosphatase, receptor type, C;T200;L-CA;B220;Ly-5;CD45R;Cd45
Protein Construction:	A DNA sequence encoding the mouse PTPRC (AAA39458.1) (Arg453-Ser1152) was fused with five amino acids (DDDDK) at the C-terminus was expressed and purified. Predicted N terminal: Arg 453
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	AAA39458.1
Molecular Weight:	81 kDa (predicted); 93 kDa (reducing conditions)

QC Testing

Biological Activity:	1. The specific activity was determined to be 9168 nmol/min/mg using p-nitrophenyl phosphate as substrate. 2. Measured by its binding ability in a functional ELISA. Immobilized mouse PTPRC (453-1152) at 10 μg/ml (100 μl/well) can bind biotinylated human Galectin-1 with a linear range of 0.31-2.5 μg/ml.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, 10% glycerol, 3 mM DTT, pH 7.4.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

Proteins are shipped with blue ice.

Protein Background

The cluster of differentiation (CD) system is commonly used as cell markers in Immunophenotyping. Different kinds of cells in the immune system can be identified through the surface CD molecules associating with the immune function of the cell. There are more than 320 CD unique clusters and subclusters have been identified. Some of the CD molecules serve as receptors or ligands important to the cell through initiating a signal cascade which then

alter the behavior of the cell. Some CD proteins do not take part in cell signal process but have other functions such as cell adhesion. Protein tyrosine phosphatase, receptor type C (CD45), also known as PTPRC is a member of the protein tyrosine phosphatase (PTP) family which is known for its function to serve as signaling molecules and to regulate a variety of cellular processes such as cell proliferation, differentiation, mitotic cycle and oncogenic transformation. CD45 is found expression specifically in hemotopietic cells. CD45 consists of an extracellular domain, a single transmembrane segment and two tandem intracytoplasmic catalytic domains. It serves as an essential regulator of T-cell and B-cell antigen receptor signaling through either direct interaction with components of the antigen receptor complexes or by activating various Src family kinases required for the antigen receptor signaling and it also can suppress JAK kinases.

Reference

Zola H,et al.(2007) CD molecules 2006-human cell differentiation molecules. J Immunol Methods. 318 (1-2): 1-5.
Ho IC,et al.(2009) GATA3 and the T-cell lineage: essential functions before and after T-helper-2-cell differentiation. Nat Rev Immunol. 9 (2): 125-35.
Matesanz-Isabel J,et al.(2011) New B-cell CD molecules. Immunology Letters.134 (2): 104-12.
Irie-Sasaki J,et al.(2001) CD45 is a JAK phosphatase and negatively regulates cytokine receptor signaling. Nature. 409: 349-54.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481