

Technical Data Sheet

Purified Mouse Anti-CD45

Product Information

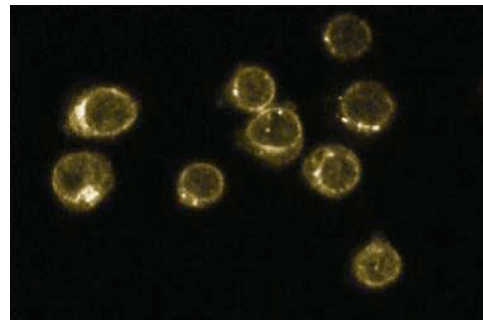
Material Number:	610265
Alternate Name:	Leukocyte Common Antigen; GP180; T200
Size:	50 µg
Concentration:	250 µg/ml
Clone:	69/CD45
Immunogen:	Human CD45 aa. 535-730 (alternatively spliced)
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Mouse, Rat
Target MW:	180-220 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

CD45 (also known as leukocyte common antigen, GP180, or T200) is found on all hematopoietic cells except those of red cell origin. The N-terminal domain is a large glycosylated extracellular region of variable length (390-542 amino acids) derived by the alternative splicing of at least three exons (4, 5, or 6). This variation accounts for the different isoforms of CD45 (180-220 kDa). The remainder of the molecule includes a short transmembrane region followed by a large highly conserved cytoplasmic domain of 702 residues. The CD45 cytoplasmic domain possesses an intrinsic protein tyrosine phosphatase (PTPase) activity. This region contains two PTPase domains (domains I and II) which share 40% homology. Both domains are required for optimal PTPase activity and show significant homology with other receptor-like and cytoplasmic PTPases. CD45 plays a critical role in antigen receptor-induced responses of T and B cells. In B cells, CD45 can exist as part of a larger multisubunit complex composed of several tyrosine phosphorylated proteins, including the Src-family PTK, Lyn, or it can exist as the membrane immunoglobulin-associated MB-1/B29 heterodimer. In T cells, CD45 associates with and dephosphorylates both lck and fyn. In addition, CD45 can associate with membrane proteins involved in T cell activation, such as CD2, Thy-1, TCR, and CD26.



Western blot analysis of CD45 on a Jurkat cell lysate (Human T-cell leukemia; ATCC TIB-152). Lane 1: 1:500, lane 2: 1:1000, lane 3: 1:2000 dilution of the mouse anti-CD45 antibody.



Immunofluorescence staining of Jurkat cells (Human T-cell leukemia; ATCC TIB-152).

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. Store undiluted at -20°C.

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Application Notes

Application

Western blot	Routinely Tested
Immunoprecipitation	Tested During Development
Immunofluorescence	Tested During Development
Immunohistochemistry	Not Recommended

Recommended Assay Procedure:

Western blot: Please refer to http://www.bdbiosciences.com/pharming/en/protocols/Western_Blotting.shtml

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

References

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Phipps DJ, Yousefi S, Branch DR. Increased enzymatic activity of the T-cell antigen receptor-associated fyn protein tyrosine kinase in asymptomatic patients infected with the human immunodeficiency virus. *Blood.* 1997; 90(9):3603-3612.(Biology: Western blot)

Sieh M, Bolen JB, Weiss A. CD45 specifically modulates binding of Lck to a phosphopeptide encompassing the negative regulatory tyrosine of Lck. *EMBO J.* 1994; 12(1):315-321.(Biology)

Wang Y, Liang L, Esselman WJ. Regulation of the calcium/NF-AT T cell activation pathway by the D2 domain of CD45. *J Immunol.* 2000; 164(5):2557-2564. (Biology: Western blot)

Wu L, Fu J, Shen SH. SKAP55 coupled with CD45 positively regulates T-cell receptor-mediated gene transcription. *Mol Biol Cell.* 2002; 22(8):2673-2686.(Biology: Immunoprecipitation, Western blot)