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CD45 Mouse Monoclonal Antibody (2D1) - Biotium Choice



CD45 (clone 2D1) is a validated mouse monoclonal antibody that recognizes CD45, a transmembrane glycoprotein expressed in hematopoietic cells. The antibody belongs to the Biotium Choice list of select antibodies that have been validated and optimized in-house for optimal performance.

Product Description

CD45 (clone 2D1) is a mouse monoclonal antibody that recognizes transmembrane glycoprotein CD45. This antibody belongs to the Biotium Choice list of select antibodies that have been validated and optimized in-house for optimal performance. The antibody is available conjugated to CF® Dyes and Astral™ tandem dyes. They are supplied in PBS, 0.1% BSA, 0.05% azide.

CD45, also designated CD45R and PTPRC, has been identified as a transmembrane glycoprotein, broadly expressed among hematopoietic cells. Multiple isoforms of CD45R are distributed throughout the immune system according to cell type. These isoforms arise because of alternative splicing of exons 4, 5, and 6. The corresponding protein domains are characterized by the binding of monoclonal antibodies specific for CD45RA (exon 4), CD45RB (exon 5), CD45RC (exon 6) and CD45RO (exons 4 to 6 spliced out). The variation in these isoforms is localized to the extracellular domain of CD45R, while the intracellular domain is conserved. CD45R functions as a phosphor-tyrosine phosphatase. This MAb reacts with all isoforms of CD45R expressed by all hematopoietic cells, except erythrocytes, having a higher level of expression on lymphocytes than on granulocytes (Workshop IV). Antibody to CD45 is useful in differential diagnosis of lymphoid tumors from non-hematopoietic undifferentiated neoplasms.

As an isotype control, we recommend Isotype Control, Monoclonal Mouse IgG1 Kappa (IGG1/1331) for this antibody.

Discover Sharper Signals and Unmatched Panel Flexibility with Biotium Choice Antibodies
Powered by CF® Dyes and Astral Leap™ Tandem Dyes

Biotium Choice antibodies are carefully curated and validated in-house to offer exceptional signal-to-noise. Labeled with our advanced CF® Dyes and Astral Leap™ tandem dyes, they are our top-recommended antibodies for flow cytometry and other applications.

Biotium Choice Antibody Features

- Robust and validated clones against common targets
- Developed and optimized for flow cytometry and other applications
- Conjugated to bright, photostable CF® Dyes for superior signal and clarity
- Also available with Astral Leap™ tandem dyes for expanding multiplexing
- New antibody clones and dye conjugates continuously in development

View our full catalog of Biotium Choice antibodies

Product attributes

Antibody number	P012
Antibody reactivity (target)	CD45
Biotium Choice Antibody	Primary
Antibody type	Biotium Choice Flow Antibodies, Primary
Host species	Mouse
Clonality	Monoclonal
Clone	2D1
Isotype	IgG1, kappa
Molecular weight	180 – 240 kDa (multiple isoforms)
Synonyms	Leukocyte Common Antigen (LCA), PTPRC, T200
Human gene symbol	CD45
Entrez gene ID	5788
SwissProt	P08575
Unigene	654514
Immunogen	Human
Antibody target cellular localization	Plasma membrane
Verified antibody applications	Flow (surface) (verified)
Species reactivity	Human
Antibody application notes	Recommended concentration for flow cytometry: 5 uL per million cells/0.1 mL
Positive control	Human peripheral blood mononuclear cells (PBMCs)
Shipping condition	Room temperature
Storage Conditions	Store at 2 to 8 °C, Protect fluorescent conjugates from light
Shelf life	Guaranteed for at least 24 months from date of receipt when stored as recommended
Regulatory status	For research use only (RUO)
Volume per assay	5 uL/test
Antibody/conjugate formulation	Conjugates: PBS/0.1% BSA/0.05% azide
Antibody research areas	Immunology
Product origin	Product may contain either bovine serum albumin (BSA) from bovine serum (Bos taurus), or recombinant BSA produced in Chinese hamster ovary cells. Inquire for the specific lot.
Cell/tissue expression	Lymphocytes

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Conjugation	Ex/Em	Conc.	Size	Catalog No.	Dye Features
CF®405M	416/452 nm	200 ug/mL	25 tests (125 uL)	P012-405M-125	CF®405M Features
100 tests (500 uL)	P012-405M-500				
CF®488A	490/516 nm	200 ug/mL	25 tests (125 uL)	P012-488A-125	CF®488A Features
100 tests (500 uL)	P012-488A-500				
RPE-Astral™616	496, 546, 566/617 nm	100 ug/mL	25 tests (125 uL)	P012-R616-125	
100 tests (500 uL)	P012-R616-500				
CF®647Plus	652/668 nm	100 ug/mL	25 tests (125 uL)	P012-647P-125	
100 tests (500 uL)	P012-647P-500				
CF®820	822/835 nm	100 ug/mL	25 tests (125 uL)	P012-820-125	CF®820 Features
100 tests (500 uL)	P012-820-500				
APC-Astral™813	633, 638/813 nm	100 ug/mL	25 tests (125 uL)	P012-A813-125	
100 tests (500 uL)	P012-A813-500				
R-PE	496, 546, 565/576 nm	50 ug/mL	25 tests (125 uL)	P012-RPE-125	
100 tests (500 uL)	P012-RPE-500				
APC	651/660 nm	100 ug/mL	25 tests (125 uL)	P012-APC-125	
100 tests (500 uL)	P012-APC-500				

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