Datasheet: MCA87A488

Description:	MOUSE ANTI HUMAN CD45:Alexa Fluor® 488
Specificity:	CD45
Other names:	LCA
Format:	ALEXA FLUOR® 488
Product Type:	Monoclonal Antibody
Clone:	F10-89-4
Isotype:	IgG2a
Quantity:	100 TESTS/1ml

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			Neat

Where this antibody has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the antibody for use in their own system using appropriate negative/positive controls.

Target Species

Human

Product Form

Purified IgG conjugated to Alexa Fluor® 488 - liquid

Max Ex/Em

Fluorophore	Excitation Max (nm)	Emission Max (nm)
Alexa Fluor®488	495	519

Preparation

Purified IgG prepared by affinity chromatography on Protein A from tissue culture supernatant

Buffer Solution

Phosphate buffered saline

Preservative Stabilisers

0.09% Sodium Azide
1% Bovine Serum Albumin

Approx. Protein Concentrations

IgG concentration 0.05 mg/ml

Immunogen	Human T lymphocytes.
External Database Links	**UniProt:** P08575 Related reagents **Entrez Gene:** 5788 PTPRC Related reagents
Synonyms	CD45
RRID	AB_321209
Fusion Partners	Spleen cells from immunized BALB/c mice were fused with cells of the mouse NS-1 myeloma cell line.
Specificity	**Mouse anti Human CD45 antibody, clone F10-89-4** recognizes the human CD45 cell surface antigen, also known as leucocyte common antigen (LCA). CD45 is a complex molecule existing in a number of isoforms. Antibodies recognizing a common epitope on all of these isoforms are termed CD45 whilst those recognizing only individual isoforms are termed CD45RA or CD45RO etc. Mouse anti Human CD45 antibody, clone F10-89-4 reacts with all forms of CD45 expressed by all haematopoietic cells, except erythrocytes, having a higher level of expression on lymphocytes than on granulocytes. It is routinely tested in flow cytometry on human peripheral blood leucocytes. Mouse anti Human CD45 antibody, clone F10-89-4, has been validated for use on the Genesis Cell Isolation System with the CelSelect Slide™ technology.
Flow Cytometry	Use 10ul of the suggested working dilution to label 10^6 cells or 100ul whole blood.
References	1. Quenby, S *et al*. (1999) Pre-implantation endometrial leukocytes in women with recurrent miscarriage. Human Reprod. 14(9):2386-2391. 2. Hauser, P.V. *et al.* (2010) Stem cells derived from human amniotic fluid contribute to acute kidney injury recovery. Am J Pathol. 177: 2011-21. 3. Mallam, E. *et al.* (2010) Characterization of *in vitro* expanded bone marrow-derived mesenchymal stem cells from patients with multiple sclerosis. Mult Scler. 16: 909-18. 4. Marrinucci, D. *et al.* (2010) Cytomorphology of circulating colorectal tumor cells:a small case series. J Oncol. 2010: 861341. 5. Paul, G. *et al.* (2012) The adult human brain harbors multipotent perivascular mesenchymal stem cells. PLoS One. 7: e35577. 6. De Schauwer, C. *et al.* (2012) In search for cross-reactivity to immunophenotype equine mesenchymal stromal cells by multicolor flow cytometry. Cytometry A. 81 (4): 312-23. 7. Kazane, S.A. *et al.* (2012) Site-specific DNA-antibody conjugates for specific and sensitive immuno-PCR. Proc Natl Acad Sci U S A. 109: 3731-6. 8. Spaas, J.H. *et al.* (2013) Culture and characterisation of equine peripheral blood

mesenchymal stromal cells. Vet J. 195 (1): 107-13.
9. Sadarangani, A. *et al.* (2015) GLI2 inhibition abrogates human leukemia stem cell dormancy. J Transl Med. 13: 98.
10. Gunawardene, P. *et al.* (2015) Association Between Circulating Osteogenic Progenitor Cells and Disability and Frailty in Older Persons: The Nepean Osteoporosis and Frailty Study. J Gerontol A Biol Sci Med Sci. pii: glv190.
11. Mohamed Suhaimi, N.A. *et al.* (2015) Non-invasive sensitive detection of KRAS and BRAF mutation in circulating tumor cells of colorectal cancer patients. Mol Oncol. 9 (4): 850-60.
12. Ruiz, C. *et al.* (2015) Limited genomic heterogeneity of circulating melanoma cells in advanced stage patients. Phys Biol. 12 (1): 016008.
13. Gogoi P *et al.* (2016) Development of an Automated and Sensitive Microfluidic Device for Capturing and Characterizing Circulating Tumor Cells (CTCs) from Clinical Blood Samples. PLoS One. 11 (1): e0147400.
14. Gomiero, C. *et al.* (2016) Tenogenic induction of equine mesenchymal stem cells by means of growth factors and low-level laser technology. Vet Res Commun. 40 (1): 39-48.
15. Bianchessi, M. *et al.* (2016) Effect of Fibroblast Growth Factor 2 on Equine Synovial Fluid Chondroprogenitor Expansion and Chondrogenesis. Stem Cells Int. 2016: 9364974.
16. Branly, T. *et al.* (2017) Characterization and use of Equine Bone Marrow Mesenchymal Stem Cells in Equine Cartilage Engineering. Study of their Hyaline Cartilage Forming Potential when Cultured under Hypoxia within a Biomaterial in the Presence of BMP-2 and TGF-β1. Stem Cell Rev Rep. 13 (5): 611-30.
17. GarikipatiV, N.S. *et al.* (2018) Isolation and characterization of mesenchymal stem cells from human fetus heart. PLoS One. 13 (2): e0192244.
18. Shishido, S.N. *et al.* (2019) Circulating tumor cells as a response monitor in stage IV non-small cell lung cancer. J Transl Med. 17 (1): 294.
19. Welter, L. *et al.* (2020) Treatment response and tumor evolution: lessons from an extended series of multianalyte liquid biopsies in a metastatic breast cancer patient. Cold Spring Harb Mol Case Stud. 6 (6): a005819.
20. Ndacayisaba, L.J. *et al.* (2022) Enrichment-Free Single-Cell Detection and Morphogenomic Profiling of Myeloma Patient Samples to Delineate Circulating Rare Plasma Cell Clones Curr Oncol. 29 (5): 2954-72.
21. Shishido, S.N. *et al.* (2022) Liquid Biopsy Landscape in Patients with Primary Upper Tract Urothelial Carcinoma. Cancers (Basel). 14 (12): 3007.
22. Chai, S. *et al.* (2022) Identification of epithelial and mesenchymal circulating tumor cells in clonal lineage of an aggressive prostate cancer case. NPJ Precis Oncol. 6 (1): 41.
23. Zhu, J. *et al.* (2022) Sequential Method for Analysis of CTCs and Exosomes from the Same Sample of Patient Blood. ACS Omega. 7 (42): 37581-88.
24. Setayesh, S.M. *et al.* (2022) Multianalyte liquid biopsy to aid the diagnostic workup of breast cancer. NPJ Breast Cancer. 8 (1): 112.
25. Ndacayisaba, L.J. *et al.* (2022) Characterization of BCMA Expression in Circulating Rare Single Cells of Patients with Plasma Cell Neoplasms. Int J Mol Sci. 23 (21): 13427.
26. Qi, E. *et al.* (2023) Investigation of liquid biopsy analytes in peripheral blood of individuals after SARS-CoV-2 infection. EBioMedicine. 90: 104519.
27. Seo, J. *et al.* (2023) Plasticity of circulating tumor cells in small cell lung cancer. Sci Rep. 13 (1): 11775.
28. Setayesh, S.M. *et al.* (2023) Targeted single-cell proteomic analysis identifies new

liquid biopsy biomarkers associated with multiple myeloma. NPJ Precis Oncol. 7 (1): 95.
29. Welter, L. *et al.* (2023) Cell State and Cell Type: Deconvoluting Circulating Tumor Cell Populations in Liquid Biopsies by Multi-Omics. Cancers (Basel). 15 (15): 3949.
30. Shishido, S.N. *et al.* (2024) Cancer-related cells and oncosomes in the liquid biopsy of pancreatic cancer patients undergoing surgery. NPJ Precis Oncol. 8 (1): 36.

Storage	This product is shipped at ambient temperature. It is recommended to aliquot and store at -20°C on receipt. When thawed, aliquot the sample as needed. Keep aliquots at 2-8°C for short term use (up to 4 weeks) and store the remaining aliquots at -20°C. Avoid repeated freezing and thawing as this may denature the antibody. Storage in frost-free freezers is not recommended. This product is photosensitive and should be protected from light.
Guarantee	12 months from date of despatch
Acknowledgements	This product is provided under an intellectual property licence from Life Technologies Corporation. The transfer of this product is contingent on the buyer using the purchase product solely in research, excluding contract research or any fee for service research, and the buyer must not sell or otherwise transfer this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; (c) manufacturing or quality assurance or quality control, or (d) resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad CA 92008 USA or outlicensing@thermofisher.com
Health And Safety Information	Material Safety Datasheet documentation #10041 available at: https://www.bio-rad-antibodies.com/SDS/MCA87A488 10041
Regulatory	For research purposes only

Related Products

Recommended Negative Controls

MOUSE IgG2a NEGATIVE CONTROL:Alexa Fluor® 488 (MCA929A488)

Recommended Useful Reagents

HUMAN SEROBLOCK (BUF070A)
HUMAN SEROBLOCK (BUF070B)

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To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
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