abcam

ab54223

Anti-Ly6c antibody [ER-MP20]

Anti-Ly6c antibody [ER-MP20] (ab54223) is a rat monoclonal antibody detecting Ly6c in **Flow Cytometry, IHC-Fr**. Suitable for **Mouse**.

- Over 10 publications
- Trusted since 2007

Key facts

Isotype	IgG2a
Host species	Rat
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Clone number	ER-MP20
Purification technique	Affinity purification Protein G
Specificity	ab54223 recognizes murine Ly-6C, a 131 amino acid ~14 kDa differentiation antigen, expressed on macrophage/dendritic cell precursors in mid-stage development (late CFU-M, monoblasts and immature monocytes), granulocytes, and on a wide range of endothelial cells and subpopulations of B- and T-lymphocytes. ab54223 is able to distinguish multiple mouse blood monocyte subsets: immature Ly-6C^{hi} monocytes are recruited to acute peripheral inflammation and develop into Ly-6C^{+} exudate macrophages, whereas more mature Ly-6C$^{-/lo}$ monocytes are precursors for tissue macrophages and dendritic cells in steady state. ab54223 was originally described as recognizing a protein encoded by the LY6C gene. It has subsequently become apparent that the LY6C locus demonstrates polymorphism and the LY6C gene has been re-designated LY6C2. The LY6C1 gene encodes a similar protein with ~95% sequence homology to LY6C2
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Purification notes	Purified IgG prepared by affinity chromatography on Protein G from tissue culture supernatant

Reactivity data

Flow Cyt

Tested

Species	Mouse
Dilution info	1/10 - 1/50
Notes	Use 10 µl of the suggested working dilution to label 10^6 cells in 100ul.

IHC-Fr

Tested

Species	Mouse
Dilution info	1/100
Notes	We recommend titration to determine the optimal conditions for specific staining assays.

Target data

See full target information Ly6c1

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot

Storage information	Avoid freeze / thaw cycle

Notes

This product should be stored undiluted. Shelf life - 18 months

Studies show that clone ER-MP20 can be used in conjunction with clone ER-MP12 in two colour flow cytometric analysis, to identify different stages of myeloid progenitor cells in mouse bone marrow.

Product Specifications
Anti-Ly6c antibody [ER-MP20] (ab54223) is a rat monoclonal antibody and is validated for use in Flow Cyt, IHC-Fr in mouse samples.
Anti-Ly6c antibody [ER-MP20] (ab54223) specifically detects Ly6c (UniProt ID: P0CW03; Molecular weight: 9kDa) and is sold in 100 µg selling sizes.

Quality and Validation
Abcam's high quality validation processes ensure Anti-Ly6c antibody [ER-MP20] (ab54223) has high sensitivity and specificity.
Anti-Ly6c antibody [ER-MP20] (ab54223) has been cited over 13 times in peer reviewed journals and is trusted by the scientific community.

Related Products
Conjugation-ready, carrier free format available for antibody clone ER-MP20 - ab236269.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Ly6c also known as Ly-6C is a protein marker with a molecular weight of approximately 18 kDa. It is part of the Ly6 family of glycosylphosphatidylinositol (GPI)-anchored cell surface proteins. Ly6c is predominantly expressed in mice on the surface of certain immune cells including monocytes macrophages dendritic cells and subsets of T cells. The expression levels can vary depending on the cell type and the activation or developmental stage of the cell. Ly6c serves as a useful marker in immunological studies to distinguish between different subsets of monocytes commonly identified as Ly6c^high and Ly6c^low populations.
Biological function summary	Ly6c is involved in the differentiation and trafficking of immune cells. It is not known to be part of a larger protein complex. In the immune system the Ly6c marker is critical for distinguishing between classical and non-classical monocytes in mice. Classical monocytes expressing high levels of Ly6c are involved in rapid response to inflammatory stimuli while non-classical monocytes with lower Ly6c expression help in patrolling blood vessels. This distinction is important in understanding how the immune system responds to various infections and how the body maintains immune homeostasis.
Pathways	

	Ly6c plays a role in the monocyte recruitment and differentiation pathways. It is closely related to the chemokine signaling pathway influencing how immune cells migrate towards sites of inflammation or injury. The presence of the Ly6c2 protein an isoform of Ly6c helps modulate these responses by interacting with cytokines and chemokines that guide the trafficking of immune cells. The presence of Ly6c influences the activity of proteins like CCR2 which plays a significant role in chemotaxis in response to inflammation.
Associated diseases and disorders	Ly6c is associated with inflammatory and autoimmune conditions. For example high Ly6c expression has been linked to inflammatory bowel disease (IBD) and atherosclerosis. In IBD the ability of Ly6c^high monocytes to migrate to the gut and promote inflammation is well-documented. Similarly in atherosclerosis the recruitment of Ly6c^high monocytes to blood vessels contributes to plaque formation. In these contexts proteins like MCP-1 (also known as CCL2) interact with Ly6c-expressing cells facilitating their movement and function in disease processes. Understanding the role of Ly6c in these conditions might help develop targeted therapies to mitigate chronic inflammation and related diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

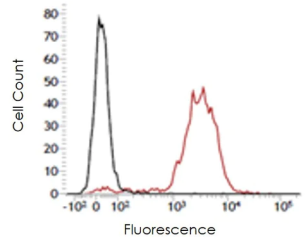
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

3 product images



Flow Cytometry - Anti-Ly6c antibody [ER-MP20] (ab54223)

Ly6c Flow Cytometry staining using rat Anti-Ly6c antibody

Flow cytometric analysis of Mouse Blood cells labelling Ly6c with ab54223 (Red) at 1/50 dilution compared with Rat IgG2a Negative Control (Black).

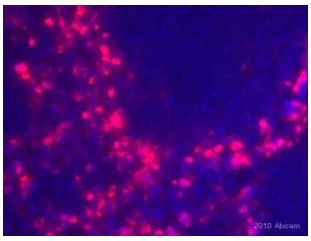
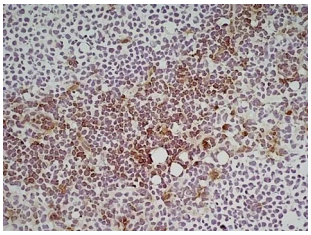


Image courtesy of an anonymous customer review.

Immunohistochemistry (Frozen sections) - Anti-Ly6c antibody [ER-MP20] (ab54223)

Ly6c Immunohistochemistry (Frozen sections) staining using rat Anti-Ly6c antibody

ab54223 staining Ly6c in mouse spleen tissue sections by Immunohistochemistry (frozen sections). Tissue was fixed with paraformaldehyde and then blocked with TNB for 30 minutes at 22°C followed by incubation with the primary antibody, at a 1/100 dilution, for 18 hours at 4°C. A Biotin-conjugated goat anti-rat polyclonal was used as secondary antibody at a 1/500 dilution.



Immunohistochemistry (Frozen sections) - Anti-Ly6c antibody [ER-MP20] (ab54223)

Ly6c Immunohistochemistry (Frozen sections) staining using rat Anti-Ly6c antibody

Immunohistochemical analysis of frozen Mouse lymph node tissue labeling Ly6c with ab283653 at 1/100 dilution, followed by horseradish peroxidase conjugated Goat anti Rat IgG antibody as the secondary antibody.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.