

# Ly-6C (ER-MP20): sc-52650

## BACKGROUND

The gene encoding the mouse alloantigen, Ly-6C, maps to chromosome 15 D3 and encodes a 131 amino acid protein that belongs to the Ly-6 family of glycosyl-phosphatidylinositol (GPI)-linked proteins. Ly-6 family members share amino acid homology throughout a distinctive cysteine rich protein domain that incorporates O-linked carbohydrates. Murine Ly-6 molecules have unique patterns of tissue expression during hematopoiesis from multipotential stem cells to lineage committed precursor cells, and on specific leukocyte subpopulations in the peripheral lymphoid tissues. Ly-6C is predominantly expressed on murine peripheral CD8 T cells. Ly-6C is involved in endothelial adhesion, the killing of target cells by CTLs, inducing TCR-mediated activation of IL-2 and IFN- $\gamma$  production in CD8 T cells and the homing of CD8 T cells. In addition, Ly-6C may act as a signaling molecule of LFA-1 activation.

## REFERENCES

1. Philbrick, W.M., et al. 1990. A recombination event in the 5' flanking region of the Ly-6C gene correlates with impaired expression in the NOD, NZB and ST strains of mice. *EMBO J.* 9: 2485-2492.
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3. Gumley, T.P., et al. 1995. Tissue expression, structure and function of the murine Ly-6 family of molecules. *Immunol. Cell Biol.* 73: 277-296.
4. Takikawa, O., et al. 1996. Multiple expression of Ly-6C and accumulation of a Ly-6C pre-mRNA in activated macrophages involved in rejection of an allografted tumor. *Biochem. Biophys. Res. Commun.* 226: 247-253.
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6. Ding, L. and Shevach, E.M. 2001. Inhibition of the function of the Fc $\gamma$ RIIB by a monoclonal antibody to thymic shared antigen-1, a Ly-6 family antigen. *Immunology* 104: 28-36.
7. Zammit, D.J., et al. 2002. Essential role for the lymphostromal plasma membrane Ly-6 superfamily molecule thymic shared antigen 1 in development of the embryonic adrenal gland. *Mol. Cell. Biol.* 22: 946-952.
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9. Nagendra, S. and Schlueter, A.J. 2004. Absence of cross-reactivity between murine Ly-6C and Ly-6G. *Cytometry A* 58: 195-200.

## CHROMOSOMAL LOCATION

Genetic locus: Ly6c1 (mouse) mapping to 15 D3.

## SOURCE

Ly-6C (ER-MP20) is a rat monoclonal antibody raised against a macrophage cell line of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ly-6C (ER-MP20) is available conjugated to either phycoerythrin (sc-52650 PE) or fluorescein (sc-52650 FITC), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

Ly-6C (ER-MP20) is recommended for detection of Ly-6C of mouse origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1  $\mu$ g per  $1 \times 10^6$  cells).

Suitable for use as control antibody for Ly-6C siRNA (m): sc-42943, Ly-6C shRNA Plasmid (m): sc-42943-SH and Ly-6C shRNA (m) Lentiviral Particles: sc-42943-V.

Molecular Weight of Ly-6C: 14-16 kDa.

Positive Controls: BW5147 cell lysate: sc-3800 or mouse lymph node extract: sc-364243.

## SELECT PRODUCT CITATIONS

1. Wondimu, Z., et al. 2010. Protective role of interleukin-17 in murine NKT cell-driven acute experimental hepatitis. *Am. J. Pathol.* 177: 2334-2346.
2. Han, H., et al. 2015. Flaxseed oil containing  $\alpha$ -linolenic acid ester of plant sterol improved atherosclerosis in apoE deficient mice. *Oxid. Med. Cell. Longev.* 2015: 958217.
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4. Ye, Z., et al. 2019. A peptide analogue of selectin ligands attenuated atherosclerosis by inhibiting monocyte activation. *Mediators Inflamm.* 2019: 8709583.
5. Zhang, W., et al. 2020. Ly-6C<sup>high</sup> inflammatory-monocyte recruitment is regulated by p38 MAPK/MCP-1 activation and promotes ventilator-induced lung injury. *Int. Immunopharmacol.* 78: 106015.
6. Martínez-Carmona, M., et al. 2021. Ly6c as a new marker of mouse blood vessels: qualitative and quantitative analyses on intact and ischemic retinas. *Int. J. Mol. Sci.* 23: 19.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.