MONOCLONAL ANTIBODY TO
MOUSE LY-6G/-6C NEUTROPHIL MARKER

clone NIMP-R14

Catalog no
HM1039 (lot number and expiry date are indicated on the label)

Description
The monoclonal antibody NIMP-R14 is highly specific for murine Ly-6G and Ly-6C. The Ly-6G/-6C locus encodes a family of Ly-6 proteins including Ly-6G and Ly-6C. Ly-6 antigens have a molecular weight between 15,000 and 18,000. Ly6G is a GPI-anchored protein and is a good marker of peripheral neutrophils. Although predominantly presents on neutrophils, it is also expressed on a subset of eosinophils, differentiating pre-monocytes and plasmacytoid dendritic cells. Ly6C is a monocyte/macrophage and endothelial cell differentiation antigen regulated by interferon gamma, and may play a role in the development and maturation of lymphocytes. It is expressed on bone marrow cells, monocytes/macrophages, neutrophils, endothelial cells, and T cell subsets. Expression of Gr-1 in bone marrow correlates with granulocyte differentiation and maturation. However, the physiological role of Ly6G alone remains still unclear. The monoclonal antibody NIMP-R14 has been successfully used to stain polymorphonuclear (PMN) cells and monocytes for fluorescent activated cell sorting and in frozen and paraffin sections. Treatment with antibodies in vivo leads to neutropenia and has inhibitory effect on local immune responses. Furthermore, it has been shown to be useful for depletion of neutrophils in mice. It depletes neutrophils as soon as 6 hours after injection and up to 6 days.

Aliases
Lymphocyte antigen 6 complex locus protein G6c, myeloid differentiation antigen Gr1

Immunogen
Purified BALB/c mouse neutrophils

Species
Rat IgG2b

Formulation
1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin.

Application

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N.D.= Not Determined; F = Frozen sections; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IF = Immuno Fluorescence; IP = Immuno Precipitation; P = Paraffin sections; W = Western blot

Application notes
IHC-F: Tissue was fixed with acetone (Ref 6)
IHC-P: Blocking with 20% normal rabbit serum (Ref 4)
FC: 5 x 10⁶ cells were incubated with 10 µg/ml antibody (Ref 3)
FS: Neutrophil depletion. Mice were treated with NIMP-R14 given intraperitoneally at a dose of 1mg, 6h before infection (Ref 5)

Staining for Ly-6G/-6C of frozen section of mouse spleen

References
1. Lopez, A et al; Differentiation antigens on mouse eosinophils and neutrophils identified by monoclonal antibodies, Brit J Haematology 1984, 57: 489
3. Van Lent, P et al; Monocytes/macrophages rather than PMN are involved in early cartilage

Use
For flow cytometry and immunohistology dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50. Before use in biological assays, the product must be filter sterilized and depending on the concentration to be used dialyzed against culture medium to remove the sodium azide added. Please inquire for availability of azide free solutions.

Positive control
Mouse neutrophils

Negative control
Mouse Thymocytes

Storage and stability
Product should be stored at 4°C. Under recommended storage conditions, product is stable for one year.

Precautions
For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and Federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result with the use of or derivation of this product.

Also available
HM1039F  FITC conjugated monoclonal antibody against mouse Ly-6G/-6C, clone NIMP-R14
HM1039BT  Biotinylated monoclonal antibody against mouse Ly-6G/-6C, clone NIMP-R14
HM1051  Monoclonal antibody against mouse/rat MPO, clone 8F4
HM1051BT  Biotinylated monoclonal antibody against mouse/rat MPO, clone 8F4
HM1051F  FITC conjugated monoclonal antibody against mouse/rat MPO, clone 8F4