LY-6G/-6C, MOUSE, CLONE NIMP-R14

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<th>HM1039-FS</th>
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**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 together with Ly6C a component of the myeloid differentiation antigen Gr-1. Ly6G 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
Gene name: Ly6g

**Immunogen**
Purified BALB/c mouse neutrophils

**Species**
Rat IgG₂b

**Formulation**
0.5 mg of 0.2 µm filtered protein G purified antibody solution in PBS with a concentration of at least 0.5 mg/ml (exact concentration is indicated on the label). The endotoxin concentration is < 24 EU/mg, determined with HIT302 LAL Assay.

**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 FC has been tested by Hycult Biotech.

**Application notes**
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.
- IHC-F: Tissue was fixed with acetone (Ref 6)
- IHC-P: Blocking with 20% normal rabbit serum (Ref 4)
- FC: 5 x 10⁵ 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)
IHC experiment: frozen sections of mouse spleen. HM1039 was used in a concentration of 5 µg/ml.
Flow cytometry: detection of Ly-6G/-6C in RAW cells. Red, black and blue line represent the isotype control, cells only and HM1039PE with a concentration of 10 µg/ml, respectively.

Positive control
Mouse neutrophils

Negative control
Mouse Thymocytes

References
1. Lopez, A et al; Differentiation antigens on mouse eosinophils and neutrophils identified by monoclonal antibodies, Brit J Haematology 1984, 57: 489

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 from the use or derivation of this product.