Revision 9

Store at -20C

#31469

Ly-6G/Ly-6C (Gr-1) (RB6-8C5) Rat mAb

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IF-F	M	Endogenous	Rat IgG2b	#P35461	546644

Product Usage Information

Application	Dilution
Immunofluorescence (Frozen)	1:50 - 1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.* This product is stable for 60 months when stored at -20C.

Specificity/Sensitivity

Ly-6G/Ly-6C (Gr-1) (RB6-8C5) Rat mAb recognizes endogenous levels of total Ly-6G and Ly-6C proteins. This antibody detects an epitope within the extracellular domain.

Source / Purification

This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography.

Background

The Ly-6 complex is a series of genes found on chromosome 15. These genes code for a number of different proteins that can be used as surface markers. The family members vary in their biologic expression and have been shown to be involved in cell signaling and cell adhesion (1). The structure of these proteins includes a motif known as the LU domain that has three loops comprised of disulfide bonds. These bonds are formed by 8 to 10 cysteines that can cause differences in the length of the loops as well as the sequences at each tip (2,4). There are 11 known Ly-6 genes on murine chromosome 15 that code for different proteins. These family members, excluding secreted Ly6/Plaur domain containing 1 coded by the *Slurp1* gene, are attached to the cell surface by a GPI anchor near the C terminus. The structure of these proteins may play a role in transmembrane interactions, and downstream signaling cascades (1,2).

Ly-6 proteins have been widely used as differentiation markers on hematopoietic cells. The ability to isolate and express specific Ly-6 antibodies through hybridoma technology has allowed researchers to identify unique proteins (1). These proteins are expressed on subsets of immune cells at different stages of development, such as T cells, B cells, monocytes, granulocytes, and macrophages (1-5).

The 1A8 clone is specific to Ly-6G, which is used as a marker for mouse neutrophils (2,3). It is also expressed by mouse polymorphonuclear myeloid-derived suppressor cells (PMN-MDSCs) (6). The RB6-8C5 clone recognized both Ly-6G and Ly-6C, also known as Gr-1, and has been found to express on neutrophils, monocytes, dendritic cells, and T cells (2,3).

Background References

1. Bamezai, A. *Arch Immunol Ther Exp (Warsz)* 52, 255-66.
2. Lee, P.Y. et al. (2013) *J Leukoc Biol* 94, 585-94.
3. Fleming, T.J. et al. (1993) *J Immunol* 151, 2399-408.
4. Tsetlin, V. (1999) *Eur J Biochem* 264, 281-6.
5. Pflugh, D.L. et al. (2000) *J Immunol* 165, 313-21.
6. Bronte, V. et al. (2016) *Nat Commun* 7, 12150.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

IF-F: Immunofluorescence (Frozen)

Cross-Reactivity Key

M: Mouse

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Limited Uses

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