



Anti-mPDCA-1 pure – functional grade mouse

1 mg in 0.5 mL
8 mg in 4.0 mL

Order no. 130-091-978
Order no. 130-092-550

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1. Description

Clone	JF05-1C2.4.1 (isotype: rat IgG2b).
Product format	1 mg in 0.5 mL Anti-mPDCA-1 pure, mouse (# 130-091-978) or 8 mg in 4.0 mL Anti-mPDCA-1 pure, mouse (# 130-092-550): The antibody is supplied in PBS (phosphate buffered saline), pH 7.2 containing 2 mM EDTA.
Product size	1 mg or 8 mg
Storage	Store protected from light at 4–8 °C. Do not freeze. The expiration date is indicated on the vial label.

1.1 Background and product applications

The mouse plasmacytoid dendritic cell antigen 1 (mPDCA-1) is specifically expressed on murine plasmacytoid dendritic cells (PDCs), a subset of dendritic cells detected at low frequency in all lymphoid tissues, peripheral blood and some non-lymphoid tissues.¹ In murine spleen, bone marrow and lymph nodes, mPDCA-1 is exclusively expressed on cells which are CD11c⁺ CD45R(B220)⁺ Ly-6C⁺, i.e. on cells with the phenotype of murine PDCs. Multi-color staining of spleen cells clearly revealed that all CD11c⁺ CD45R(B220)⁺ Ly-6C⁺ PDCs are mPDCA-1⁺ and that mPDCA-1 expression is restricted to PDCs. Furthermore, *in vivo* injection of Anti-mPDCA-1 pure antibody efficiently depletes PDCs within 24 h.²

Product applications

- *In vivo* depletion of PDCs for studies on their functional properties in experimental mouse models of infection² and autoimmunity.

1.3 Reagent requirements

- Control antibody for injection: rat IgG2b diluted in PBS (pH 7.2) with 2 mM EDTA to a final concentration of 2 mg/mL.
- (Optional) Fluorochrome-conjugated Anti-mPDCA-1 antibodies for flow cytometric analysis of the depletion efficiency, e.g. Anti-mPDCA-1-FITC (# 130-091-961), Anti-mPDCA-1-PE (# 130-091-962), Anti-mPDCA-1-APC (# 130-091-963), or Anti-mPDCA-1-Biotin (# 130-091-964).

2. Protocol

2.1 *In vivo* depletion of mPDCA-1⁺ PDCs

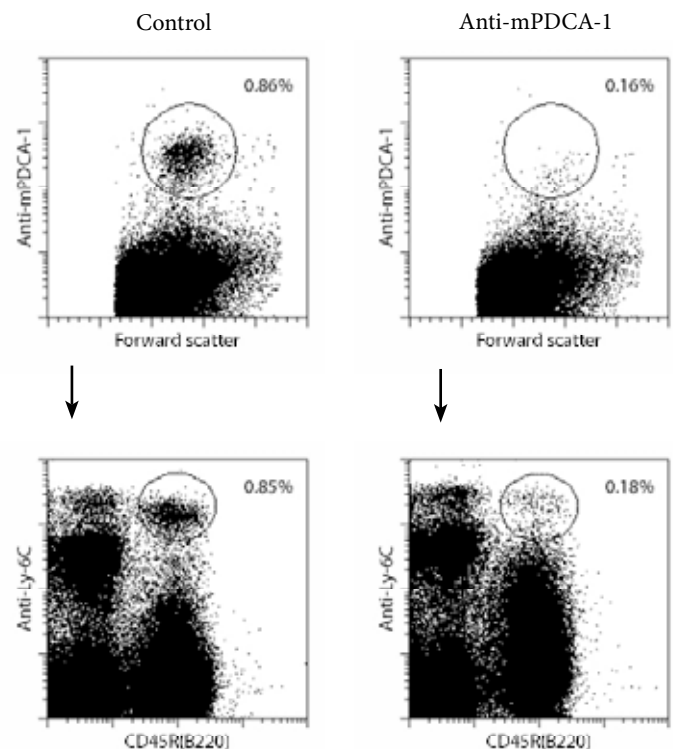
1. Inject 250 µL (500 µg) of Anti-mPDCA-1 pure or control antibody intravenously (i.v.) or intraperitoneally (i.p.) per mouse.

▲ **Note:** The depletion efficiency can be increased by a second injection 24 h after the first injection.

2. Isolate the lymphoid organs 24 h after *in vivo* application of the antibodies to control the depletion efficiency.

3. Example of an *in vivo* depletion with Anti-mPDCA-1 pure - functional grade

Murine PDCs were specifically depleted in BALB/c mice by i.p. injection of 500 µg Anti-mPDCA-1 pure. The frequency of Ly-6C⁺ mPDCA-1⁺ PDCs was analyzed in spleen 24 h after injection of the antibody by staining with Anti-mPDCA-1. To exclude blocking of Anti-mPDCA-1 staining by the *in vivo* applied Anti-mPDCA-1 antibody, cells were additionally stained with Anti-Ly-6C and CD45R (B220). Note that the frequency of PDCs decreases to about one-fifth, independent on whether it is analyzed based on Anti-mPDCA-1 staining or on Anti-Ly-6C and CD45R (B220) staining. Cell debris and dead cells were excluded from the analysis based on scatter signals and PI fluorescence.



130-091-978



4. References

1. Fischer, J. *et al.* (2004) mPDCA-1: A presumably novel antigen exclusively expressed by murine plasmacytoid dendritic cells. *MACS&more* 8/1: 13.
2. Krug, A. *et al.* (2004) TLR-9-dependent recognition of murine cytomegalovirus (MCMV) by interferon-producing cells and dendritic cells generates a coordinated cytokine response that activates anti-viral NK cell function. *Immunity* 21: 107–119 [4201].
3. Fallarino, F. *et al.* (2005) Ligand and cytokine dependence of the immunosuppressive pathway of tryptophan catabolism in plasmacytoid dendritic cells. *Int. Immunol.* 17: 1429–1438. [7711]
4. Barchet, W. *et al.* (2005) Dendritic cells respond to influenza virus through TLR7- and PKR-independent pathways. *Eur. J. Immunol.* 35: 236–242. [6881]
5. Yoneyama, H. *et al.* (2005) Plasmacytoid DCs help lymph node DCs to induce anti-HSV CTLs. *J Exp Med.* 202(3): 425–435. [7569]

Warranty

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