Technical Data Sheet

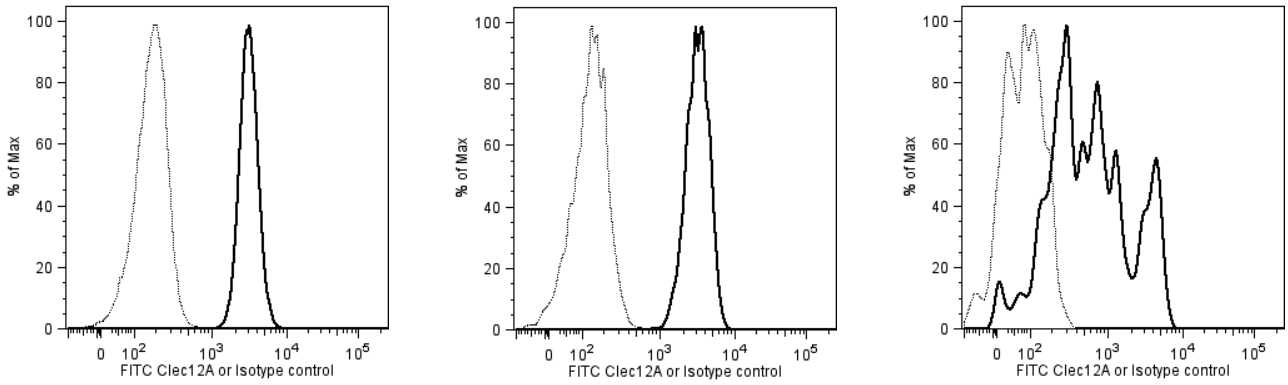
FITC Mouse Anti-Human CD371 (Clec12A)

Product Information

Material Number:	**562569**
Alternate Name:	CD371; Clec12A; MICL; CLL-1; DCAL-2
Size:	50 Tests
Vol. per Test:	5 µl
Clone:	50C1
Immunogen:	Human CLEC12A Transfected Cell Line
Isotype:	Mouse (BALB/c) IgG2a, κ
Reactivity:	QC Testing: Human
Workshop:	X 10-73
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The 50C1 monoclonal antibody specifically binds to human CD371 which is also known as Clec12A (C-type lectin domain family 12 member A), C-type lectin-like molecule 1 (CLL-1), myeloid inhibitory C-type lectin-like receptor (MICL), or dendritic cell-associated lectin 2 (DCAL-2). It is expressed on a variety of cells including monocytes, macrophages, dendritic cells, and granulocytes and perhaps some NK cells. Clec12A is a member of the C-type lectin/C-type lectin-like domain (CTL/CTLD) superfamily. It is a 30 kDa type II transmembrane glycoprotein that has one single C-type lectin-like domain and one cytoplasmic immunoreceptor tyrosine-based inhibitory motif (ITIM). Clec12A has similarity with the β-glucan receptor (Dectin-1) and LOX-1 with high N-glycosylation. There are at least five isoforms due to alternative transcript splicing. Signaling through Clec12A can induce internalization of Clec12A, dendritic cell maturation and the production of cytokines including IL-12. Clec12A may also serve as a negative regulator of activated leukocytes recruited to sites of inflammation.



Flow cytometric analysis of human CD371 (Clec12A) expression on monocytes and dendritic cell subsets from human PBMC.*Human peripheral blood mononuclear cells (PBMC) were stained with either FITC Mouse IgG2a, κ Isotype Control (Cat. No. 556652) or FITC Mouse Anti-Human CD371 (Clec12A) (Cat. No. 562569) antibody. The cells were also stained with PE-Cy™7 Mouse Anti-Human HLA-DR (Cat. No. 560651), Alexa Fluor® 700 Mouse Anti-Human CD11c (Cat. No. 561352), PE-Cy™5 Mouse Anti-Human CD123 (Cat. No. 551065), BD Horizon™ PE-CF594 Mouse Anti-Human CD14 (Cat. No. 562334) and a lineage cocktail comprised of BD Horizon™ V450 Mouse Anti-Human CD3 (Cat. No. 560366), CD14 (Cat. No. 560350), CD19 (Cat. No. 560354) and CD56 (Cat. No. 560361). Histograms showing the expression of CD371 (solid line) or Ig isotype control staining (dotted line) on CD14+ monocytes (Left Panel), Lineage-HLA-DR+CD11c+ myeloid dendritic cells (Middle Panel) and Lineage-HLA-DR+CD123+ plasmacytoid dendritic cells (Right Panel) were derived from gated events with the forward and side light-scatter characteristics of viable monocytes or lymphocytes (for dendritic cells), respectively. Flow cytometry was performed using a BD™ LSRII Flow Cytometer System.*

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with FITC under optimum conditions, and unreacted FITC was removed.

Application Notes

Application

Flow cytometry	Routinely Tested

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Suggested Companion Products

Catalog Number	Name	Size	Clone
556652	FITC Mouse IgG2a, κ Isotype Control	50 Tests	G155-178
554656	Stain Buffer (FBS)	500 mL	(none)
560651	PE-Cy™7 Mouse Anti-Human HLA-DR	50 Tests	G46-6
561352	Alexa Fluor® 700 Mouse Anti-Human CD11c	50 Tests	B-ly6
551065	PE-Cy™5 Mouse Anti-Human CD123	100 Tests	9F5
562334	PE-CF594 Mouse Anti-Human CD14	25 Tests	MφP9
560366	V450 Mouse Anti-Human CD3	30 Tests	UCHT1
560350	V450 Mouse Anti-Human CD14	30 Tests	MφP9
560354	V450 Mouse Anti-Human CD19	30 Tests	HIB19
560361	V450 Mouse Anti-Human CD56	30 Tests	B159

Product Notices

1. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
2. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).
3. Cy is a trademark of Amersham Biosciences Limited.
4. CF™ is a trademark of Biotium, Inc.
5. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
8. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
9. An isotype control should be used at the same concentration as the antibody of interest.

References

Chen CH, Floyd H, Olson NE, et al. Dendritic-cell-associated C-type lectin 2 (DCAL-2) alters dendritic-cell maturation and cytokine production. *Blood.* 2006; 107(4):1459-1467. (Biology)

Lahoud MH, Proietto AI, Ahmet F, et al. The C-type lectin Clec12A present on mouse and human dendritic cells can serve as a target for antigen delivery and enhancement of antibody responses. *J Immunol.* 2009; 182(12):7587-7594. (Immunogen: Flow cytometry)

Marshall AS, Willment JA, Lin HH, et al. Identification and characterization of a novel human myeloid inhibitory C-type lectin-like receptor (MICL) that is predominantly expressed on granulocytes and monocytes. *J Biol Chem.* 2004; 279(15):14792-14802. (Biology)

Marshall AS, Willment JA, Pyz E, et al. Human MICL (CLEC12A) is differentially glycosylated and is down-regulated following cellular activation. *Eur J Immunol.* 2006; 36(8):2159-2169. (Biology)

van Rhenen A, van Dongen GA, Kelder A, et al. The novel AML stem cell associated antigen CLL-1 aids in discrimination between normal and leukemic stem cells. *Blood.* 2007; 110(7):2659-2666. (Biology)

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