# **Technical Data Sheet**

# Alexa Fluor® 647 Mouse Anti-Human CD371 (Clec12A)

### **Product Information**

Material Number:	562568
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-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  $\beta$ -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 Alexa Fluor® 647 Mouse IgG2a, κ Isotype Control (Cat. No. 557715) or Alexa Fluor® 647 Mouse Anti-Human CD371 (Clec12A) (Cat. No. 562568) 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 to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

#### **Application Notes**

Application					
Flow cytometry				Routinely Tested	
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## Suggested Companion Products

Clone
ests G155-178
L (none)
ts G46-6
ts B-ly6
ests 9F5
ts ΜφΡ9
ts UCHT1
ts ΜφΡ9
ts HIB19
ts B159

#### **Product Notices**

- This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^{6}$  cells in a 100-µl experimental 1. sample (a test).
- 2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
- The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular 3 Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
- 4 Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
- 5. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
- 6. Cy is a trademark of Amersham Biosciences Limited.
- 7. CF<sup>™</sup> is a trademark of Biotium, Inc.
- 8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
- 9. 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.
- 10. An isotype control should be used at the same concentration as the antibody of interest.
- 11. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

#### 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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