

Technical Data Sheet

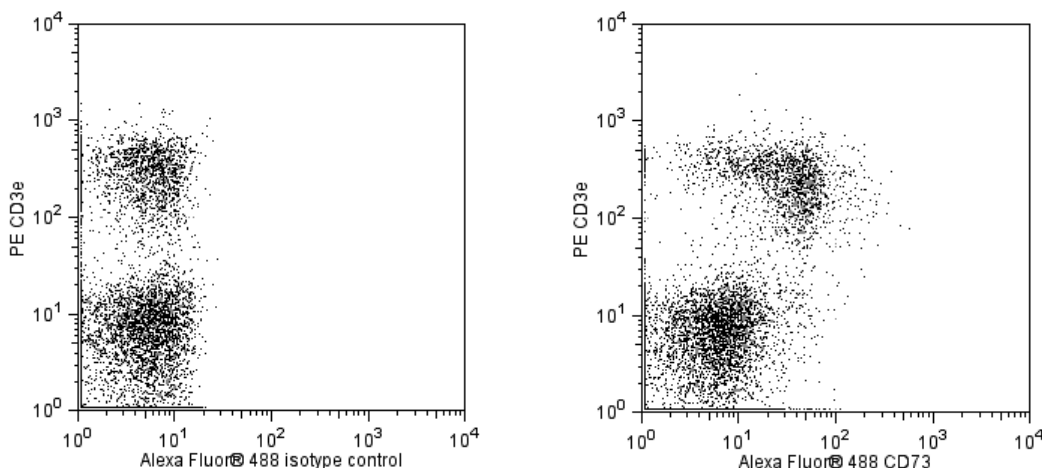
Alexa Fluor® 488 Rat Anti-Mouse CD73

Product Information

Material Number:	561545
Alternate Name:	Ecto-5'-nucleotidase
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	TY/23
Immunogen:	BALB/c mouse splenocytes and CHO cells transfected with the Mouse CD73 gene, Nt5
Isotype:	Rat (WI) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The TY/23 antibody reacts with CD73 or Ecto-5'-nucleotidase (5'-NT), a 69 kDa GPI-anchored cell-surface protein with enzymatic and signal transduction activities. 5'-NT catalyzes the dephosphorylation of extracellular nucleoside 5' monophosphates into a form which can enter cells to meet their metabolic needs. It also regulates the concentration of extracellular adenosine, which initiates a variety of physiological responses through the adenosine receptors in many tissues. CD73 expression appears to be developmentally regulated on leukocytes. In the bone marrow, it is found on most CD11b+ myeloid cells and very few CD19+ cells of the B-lymphocyte lineage. It is not found on CD11b+ cells in the periphery nor on marrow-derived GM-CSF-stimulated dendritic cells. Some peripheral B lymphocytes express CD73, with higher levels on isotype-switched B cells. The few thymocytes which have detectable surface CD73 are of the CD4-CD8- (double negative) and the single-positive populations. In the peripheral lymphoid organs, significant subpopulations of the CD4+ and CD8+ T lymphocytes express CD73, with variation in the percentages of CD73-bearing T cells observed among inbred mouse strains. In the thymus and peripheral lymphoid organs, CD73 is found on endothelia and stromal cells. CD73 has also been detected on bone marrow and thymic epithelial cell lines, kidney glomeruli and proximal-tubule epithelial cells, and liver endothelial cells and hepatocytes. The TY/23 mAb inhibits the enzymatic activity of CD73. Although soluble TY/23 mAb by itself does not affect T lymphocyte proliferation, it is an effective co-stimulator with PMA, but not with Concanavalin-A or plate-bound anti-CD3ε mAb 145-2C11.



Multicolor flow cytometric analysis for CD73 in mouse spleen cells. C57BL/6 mouse spleen cells were stained PE hamster anti-mouse CD3ε (Cat. No. 553064/553063) and with either an Alexa Fluor® 488 Rat IgG2a, κ Isotype Control (Cat No. 557676, Left Panel) or with the Alexa Fluor® 488 Rat Anti-Mouse CD73 antibody (Cat No. 561545, Right Panel) and. Two-color flow cytometric dot plots show the expression of CD73 (or Ig isotype control staining) versus CD3ε and were derived from events with the forward and side light-scatter characteristics of viable spleen cells. Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.

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Preparation and Storage

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

The antibody was conjugated to Alexa Fluor® 488 under optimum conditions, and unreacted Alexa Fluor® 488 was removed.

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

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
557676	Alexa Fluor® 488 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
554656	Stain Buffer (FBS)	500 ml	(none)
553064	PE Hamster Anti-Mouse CD3e	0.2 mg	145-2C11
553063	PE Hamster Anti-Mouse CD3e	0.1 mg	145-2C11

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Please refer to www.bdbiosciences.com/pharmlngen/protocols for technical protocols.
4. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular 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.
5. Alexa Fluor® 488 fluorochrome emission is collected at the same instrument settings as for fluorescein isothiocyanate (FITC).
6. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
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. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.

References

Resta R, Yamashita Y, Thompson LF. Ecto-enzyme and signaling functions of lymphocyte CD73. *Immunol Rev.* 1998; 161:95-109. (Biology)
Yamashita Y, Hooker SW, Jiang H, et al. CD73 expression and fyn-dependent signaling on murine lymphocytes. *Eur J Immunol.* 1998; 28(10):2981-2990. (Immunogen)