Technical Data Sheet

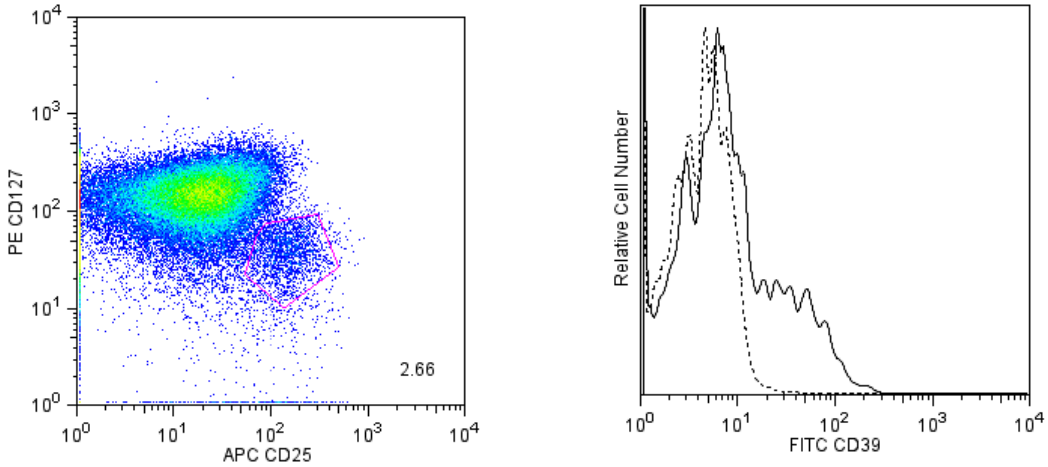
FITC Mouse Anti-Human CD39

Product Information

Material Number:	**561444**
Alternate Name:	ENTPD1; NTPDase-1; Ecto-ATPase 1; Ecto-ATPDase 1
Size:	100 tests
Vol. per Test:	5 µl
Clone:	TU66
Isotype:	Mouse IgG2b, κ
Reactivity:	QC Testing: Human
Workshop:	IV A54
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The TU66 monoclonal antibody reacts with human CD39 also known as ectonucleoside triphosphate diphosphohydrolase 1 (ENTPD1) an ectoenzyme that degrades ATP to AMP. It is a member of the family of ectonucleoside triphosphate dihydrolases (E-NTPDases) known to be involved in regulation of extracellular nucleotide catabolism, controlling the extracellular nucleoside triphosphate pool (NTP). CD39 is expressed on a subset of T cells, B cells and dendritic cells with weak staining of monocytes and granulocytes. Recently, CD39 has been found to be expressed primarly by immune-suppressive Foxp3(+) regulatory T (Treg) cells in both human and mice. In humans, CD39 is restricted to a subset of Foxp3+ regulatory effector/memory-like T cells. In mice, the enzyme is present on most if not all CD4+CD25+ cells and CD39 expression is driven by Foxp3. It is thought that CD39 allows Treg cells to enter inflamed areas where high levels of ATP are present.



Flow cytometric analysis of CD39 expression on human peripheral blood lymphocytes. *Human peripheral blood mononuclear cells were stained simultaneously with Alexa Fluor® 700 Anti-Human CD4 (Cat. No. 557922/561030), APC Mouse Anti-Human CD25 (Cat. No. 555434/560987), and PE Mouse Anti-Human CD127 (Cat No. 557938/561028) antibodies and with either FITC Mouse Anti-Human CD39 antibody (Cat. No. 561444) or a FITC Mouse IgG2b, κ Isotype Control (Cat. No. 555742). Regulatory T cells were identified from the gated events based on their light scattering characteristics as lymphocytes and fluorescence characteristics of CD4+ cells shown as a CD25 bright and CD127 dim population (Left Panel). CD39 expression is shown on regulatory T cells (Right Panel, solid line histogram) versus Ig Isotype Control staining (Right Panel; dotted line histogram). Flow cytometry was performed using a BD™ LSR II 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.

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Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
557922	Alexa Fluor® 700 Mouse Anti-Human CD4	0.1 mg	RPA-T4
561030	Alexa Fluor® 700 Mouse Anti-Human CD4	25 µg	RPA-T4
555434	APC Mouse Anti-Human CD25	100 tests	M-A251
560987	APC Mouse Anti-Human CD25	25 tests	M-A251
557938	PE Mouse Anti-Human CD127	0.1 mg	HIL-7R-M21
561028	PE Mouse Anti-Human CD127	25 µg	HIL-7R-M21
555742	FITC Mouse IgG2b κ Isotype Control	100 tests	27-35

Product Notices

1. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
5. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.

References

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Duensing S, Kirshner H, Atzpodien J. CD39 as a novel marker of in vivo immune activation. *Blood.* 1994; 83(12):3826-3827. (Biology)

Knapp W, Dorken B, Rieber EP, et al, ed. *Leucocyte Typing IV.* New York: Oxford University Press; 1989:1-1208. (Clone-specific)

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