Technical Data Sheet

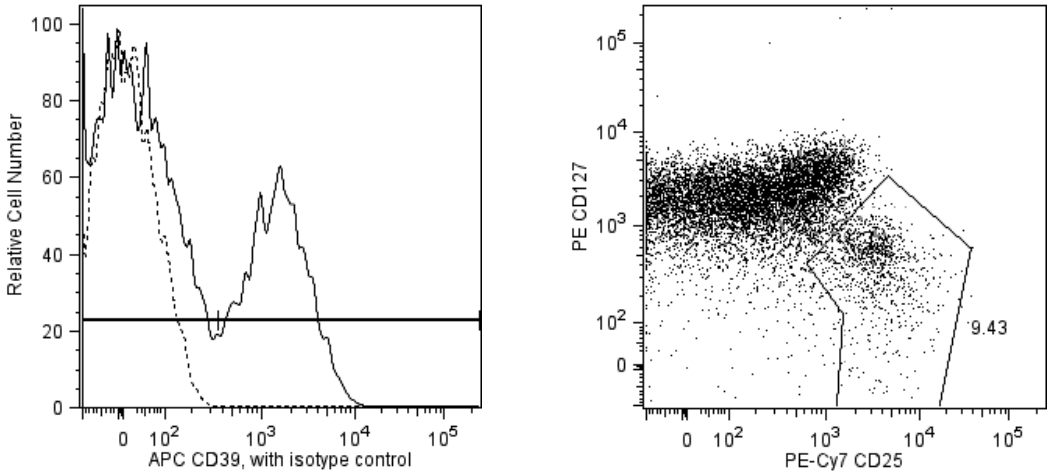
APC Mouse anti-Human CD39

Product Information

Material Number:	**560239**
Alternate Name:	ENTPD1; NTPDase-1; Ecto-ATPase 1; Ecto-ATPDase 1
Size:	100 tests
Vol. per Test:	20 µl
Clone:	TU66
Isotype:	Mouse IgG2b, κ
Reactivity:	QC Tested: 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 APC anti-human CD39 on peripheral blood. *Human peripheral blood was stained simultaneously with FITC anti-human CD4 (clone RPA-T4, Cat. No. 5555346), PE-Cy7 anti-human CD25 (Clone M-A251, Cat. No. 557741), PE anti-human CD127 (clone hIL-7R-M21, Cat No. 557938) and APC anti-human CD39 (clone TU66) or an APC conjugated mouse IgG2b, κ isotype control (clone 27-35, Cat. No. 555745). Cells were then lysed and CD39 expression examined. CD39 expression is shown on regulatory T cells (solid line) versus isotype control (dotted line,left panel). RegulatoryT cells were identified from the gated events based on light scattering characteristics of lymphocytes and fluorescence characteristics of CD4+ cells shown as CD25bright,CD127dim population. (right panel). Flow cytometry was performed on a BD FACSCanto™ System.*

Preparation and Storage

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

The antibody was conjugated to APC under optimum conditions, and unconjugated antibody and free APC were removed.

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

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Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
557938	PE Mouse Anti-Human CD127	0.1 mg	HIL-7R-M21
555346	FITC Mouse Anti-Human CD4	100 tests	RPA-T4
557741	PE-Cy™7 Mouse Anti-Human CD25	100 tests	M-A251
555745	APC Mouse IgG2b κ Isotype Control	100 tests	27-35

Product Notices

1. 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).
2. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
3. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
4. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.

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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