

Technical Data Sheet

V450 Mouse Anti-Human CD73

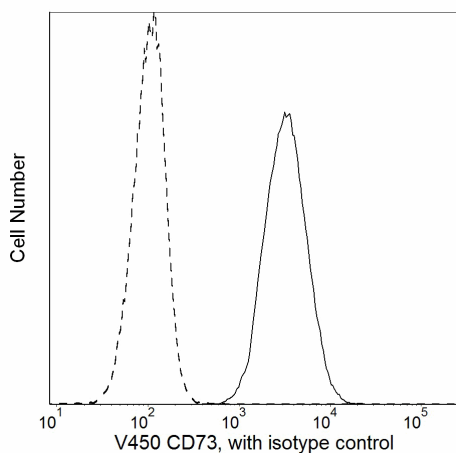
Product Information

Material Number:	561255
Alternate Name:	NT5E; 5' nucleotidase; 5'-NT; E5NT; Ecto-5'-nucleotidase; eN; eNT; NT; NT5
Size:	50 tests
Vol. per Test:	5 µl
Clone:	AD2
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	V B-CD73.3
Storage Buffer:	Aqueous buffered solution containing protein stabilizer, glycerol and ≤0.09% sodium azide.

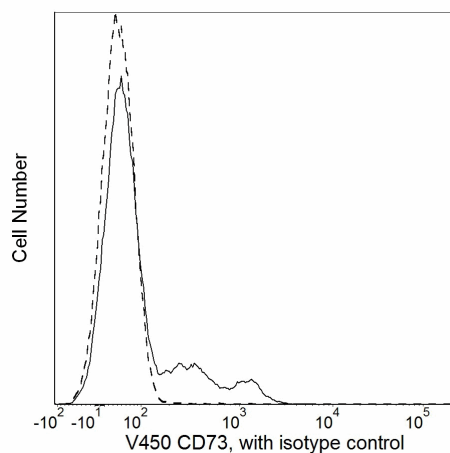
Description

The AD2 monoclonal antibody specifically binds to ecto-5'-nucleotidase, a 70 kDa, glycosyl phosphatidylinositol (GPI)-anchored glycoprotein. CD73 is expressed on bone marrow derived multipotent mesenchymal stem cells (MSCs), also sometimes identified as mesenchymal stem cells, and is one of the three positive markers that has been identified by the International Society for Cell Therapy (ISCT) for the minimum criteria for identifying MSCs. Additionally CD73 is expressed on subsets of T and B lymphocytes, follicular dendritic cells, epithelial cells, and endothelial cells. Its expression on lymphocytes increases during T and B cell development. CD73 has enzymatic activity and catalyzes the dephosphorylation of adenosine monophosphate (AMP) converting it to adenosine. It has been suggested that CD73 can mediate costimulatory signals in T cell activation and adhesion of lymphocytes to endothelium. Due to the expression characteristics of this molecule on different cell types, this BD Horizon™ V450 format is only recommended for use on cells expressing high amounts of CD73, such as MSCs.

The antibody is conjugated to BD Horizon™ V450, which has been developed for use in multicolor flow cytometry experiments and is available exclusively from BD Biosciences. It is excited by the Violet laser Ex max of 406 nm and has an Em Max at 450 nm. Conjugates with BD Horizon™ V450 can be used in place of Pacific Blue™ conjugates.



Flow cytometric analysis of CD73 expression on human mesenchymal stem cells. Human mesenchymal stem cells (Lonza) at passage 5 were harvested using BD™ Accutase™ Cell Detachment Solution (Cat. No. 561527) and stained with BD Horizon™ V450 Mouse anti-Human CD73 antibody (Cat. No. 561255; solid line histogram) or a BD Horizon™ V450 Mouse IgG1, κ Isotype Control (Cat. No. 560373, dashed line histogram). The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of viable cells. Flow cytometry was performed using a BD LSRFortessa™ Flow Cytometry System.



Flow cytometric analysis of CD73 on human lymphocytes. Whole blood was stained with BD Horizon™ V450 Mouse anti-Human CD73 (Cat. No. 561255; solid line fluorescence histogram) and compared with whole blood stained with BD Horizon™ V450 Mouse IgG1, κ Isotype Control (Cat. No. 560373; used at a matching concentration; dashed line histogram). The erythrocytes were lysed with BD PharmLyse™ Lysing Buffer (Cat. No. 555899). Flow cytometric fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD™ LSR II flow cytometry system.

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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 BD Horizon™ V450 under optimum conditions, and unreacted BD Horizon™ V450 was removed.

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
561527	Accutase™ Cell Detachment Solution	100 ml	(none)
560373	V450 Mouse IgG1, κ Isotype Control	0.1 mg	MOPC-21
554656	Stain Buffer (FBS)	500 ml	(none)

Product Notices

1. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.
2. 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.
3. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
4. BD Horizon™ V450 has a maximum absorption of 406 nm and maximum emission of 450 nm. Before staining with this reagent, please confirm that your flow cytometer is capable of exciting the fluorochrome and discriminating the resulting fluorescence.
5. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
6. Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.
7. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
8. An isotype control should be used at the same concentration as the antibody of interest.

References

Airas L, Salmi M, Jalkanen S. Lymphocyte-vascular adhesion protein-2 is a novel 70-kDa molecule involved in lymphocyte adhesion to vascular endothelium. *J Immunol.* 1993; 151(8):4228-4238. (Biology)

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Dominici M, Le Blanc K, Mueller I, et al. Minimal criteria for defining multipotent mesenchymal stromal cells. The International Society for Cellular Therapy position statement. *Cytotherapy.* 2006; 8(4):315-317. (Biology)

Salazar-Gonzalez JF, Moody DJ, Giorgi JV, Martinez-Maza O, Mitsuyasu RT, Fahey JL. Reduced ecto-5'-nucleotidase activity and enhanced OKT10 and HLA-DR expression on CD8 (T suppressor/cytotoxic) lymphocytes in the acquired immune deficiency syndrome: evidence of CD8 cell immaturity. *J Immunol.* 1985; 135(3):1778-1785. (Biology)

Schlossman SF, Boumsell L, Gilks W, et al, ed. *Leukocyte Typing V: White Cell Differentiation Antigens*. New York: Oxford University Press; 1995. (Biology)

Thomson LF, Ruedi JM, Glass A, et al. Production and characterization of monoclonal antibodies to the glycosyl phosphatidylinositol-anchored lymphocyte differentiation antigen ecto-5'-nucleotidase (CD73). *Tissue Antigens.* 1990; 35(1):9-19. (Clone-specific)

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