

Technical Data Sheet

BV421 Rat Anti-Mouse CD103

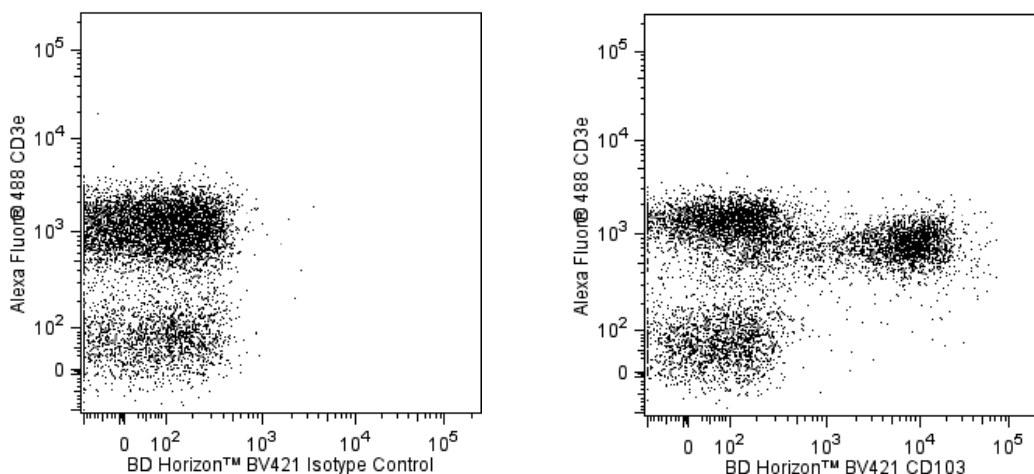
Product Information

Material Number:	566297
Alternate Name:	Igae; Integrin alpha-E; α E; alpha-E1; ITAE; Integrin α IEL chain; aM290
Size:	25 μ g
Concentration:	0.2 mg/ml
Clone:	M290
Immunogen:	Mouse Intestinal Epithelial Cells
Isotype:	Rat (LOU) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and \leq 0.09% sodium azide.

Description

The M290 antibody specifically binds to CD103, the α chain of α IEL β 7 integrin. CD103 has a unique and fairly restricted tissue distribution. It is expressed on almost all intestinal intraepithelial lymphocytes (IEL), dendritic epidermal T cells (DEC), subpopulations of peripheral T cells, and distinct subsets of fetal, neonatal, and adult thymocytes. E-cadherin is the epithelial cell ligand for α IEL β 7 integrin. The ordered expression of α IEL during thymocyte development (which occurs under the influence of the thymic epithelium), high level of α IEL expression on peripheral T cells in epithelial tissues (IEL and DEC), and expression of CD103 on a subset of CD8+ lymphocytes responding to allogeneic epithelial cells, suggest that α IEL β 7 integrin may have a common role in the interactions of T lymphocytes with epithelia during T-cell maturation and effector functions. CD103 is thought to play a role in allograft rejection. The M290 antibody is reported to efficiently inhibit α IEL β 7-mediated adhesion in *in vitro* assays.

The antibody was conjugated to BD Horizon BV421 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue conjugates.



Multicolor flow cytometric analysis of CD103 expression on mouse lymph node cells. Lymph node cells from a C57BL/6 mouse were stained with Alexa Fluor® 488 Hamster Anti-Mouse CD3e antibody (Cat. No. 557666) and either BD Horizon™ BV421 Rat IgG2a, κ Isotype Control (Cat. No. 562602; Left Plot) or with BD Horizon BV421 Rat Anti-Mouse CD103 antibody (Cat. No. 562771/566297; Right Plot). Two-color dot plots showing the coexpressed levels of CD103 (or Ig Isotype Control staining) versus CD3e were derived from gated events with the forward and side light-scatter characteristics of viable leucocytes. Flow cytometric analysis 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 BD Horizon™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

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566297 Rev. 1



Application Notes

Application

Flow cytometry

Routinely Tested

Recommended Assay Procedure:

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
563794	Brilliant Stain Buffer	100 Tests	(none)
562771	BV421 Rat Anti-Mouse CD103	50 µg	M290
562602	BV421 Rat IgG2a, κ Isotype Control	50 µg	R35-95
555899	Lysing Buffer	100 mL	(none)
557666	Alexa Fluor® 488 Hamster Anti-Mouse CD3e	0.1 mg	145-2C11
349202	BD FACSTM Lysing Solution	100 mL	(none)

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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. 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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
7. BD Horizon Brilliant Violet 421 is covered by one or more of the following US patents: 8,158,444; 8,362,193; 8,575,303; 8,354,239.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. Please refer to www.bdbiosciences.com/pharming/en/protocols for technical protocols.

References

Andrew DP, Rott LS, Kilshaw PJ, Butcher EC. Distribution of alpha 4 beta 7 and alpha E beta 7 integrins on thymocytes, intestinal epithelial lymphocytes and peripheral lymphocytes. *Eur J Immunol.* 1996; 26(4):897-905. (Clone-specific: Flow cytometry)

Feng Y, Wang D, Yuan R, Parker CM, Farber DL, Hadley GA. CD103 expression is required for destruction of pancreatic islet allografts by CD8(+) T cells. *J Exp Med.* 2002; 196(7):877-886. (Biology)

Hadley GA, Bartlett ST, Via CS, Rostapshova EA, Moainie S. The epithelial cell-specific integrin, CD103 (alpha E integrin), defines a novel subset of alloreactive CD8+ CTL. *J Immunol.* 1997; 159(8):748-3756. (Biology)

Karecla PI, Bowden SJ, Green SJ, Kilshaw PJ. Recognition of E-cadherin on epithelial cells by the mucosal T cell integrin alpha M290 beta 7 (alpha E beta 7). *Eur J Immunol.* 1995; 25(3):852-856. (Clone-specific: Blocking)

Kilshaw PJ, Baker KC. A unique surface antigen on intraepithelial lymphocytes in the mouse. *Immunol Lett.* 1988; 18(2):149-154. (Immunogen: Immunofluorescence, Immunohistochemistry, Immunoprecipitation)

Kilshaw PJ, Murant SJ. A new surface antigen on intraepithelial lymphocytes in the intestine. *Eur J Immunol.* 1990; 20(10):2201-2207. (Clone-specific: Immunoprecipitation)

Kilshaw PJ, Murant SJ. Expression and regulation of beta 7(beta p) integrins on mouse lymphocytes: relevance to the mucosal immune system. *Eur J Immunol.* 1991; 21(10):2591-2597. (Clone-specific: Immunohistochemistry)

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