

Technical Data Sheet

BV750 Rat Anti-Mouse CD103

Product Information

Material Number:	747478
Size:	50 µg
Clone:	M290
Alternative Name:	Itgae; Integrin alpha-E; αE; alpha-E1; ITAE; Integrin αIEL chain; αM290
Reactivity:	Mouse (Tested in Development)
Isotype:	Rat LOU, also known as Louvain, LOU/C, LOU/M IgG2a, κ
Immunogen:	Mouse Intestinal Epithelial Cells
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Entrez Gene ID:	16407
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The M290 antibody specifically binds to CD103, the α chain of αIELβ7 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 αIELβ7 integrin. The ordered expression of αIEL during thymocyte development (which occurs under the influence of the thymic epithelium), high level of αIEL 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 αIELβ7 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 αIELβ7-mediated adhesion in in vitro assays.

The antibody was conjugated to BD Horizon™ BV750 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 750-nm. BD Horizon Brilliant BV750 can be excited by the violet laser (405 nm) and detected with a 750/30 nm filter with a 740 nm long pass. Due to spectral differences between labeled cells and beads, using BD™ CompBeads can result in incorrect spillover values when used with BD Horizon BV750 reagents. Therefore, the use of BD CompBeads or BD CompBeads Plus to determine spillover values for these reagents is not recommended.

Preparation and Storage Section

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 BV750 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) 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) RUO	500 mL	
554657	Stain Buffer (BSA) RUO	500 mL	
563794	Brilliant Stain Buffer RUO	100 Tests	
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) 2.4G2 RUO	0.1 mg	
555899	Lysing Buffer RUO	100 mL	

Product Notices

1. This antibody was developed for use in flow cytometry.
2. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
3. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
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 Multicolor Flow Cytometry web page at wwwbdbiosciences.com/colors.
7. Please refer to wwwbdbiosciences.com/us/s/resources for technical protocols.
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. BD Horizon Brilliant™ Violet 750 is covered by one or more of the following US patents: 8,158,444; 8,802,450; 8,575,303; 8,455,613; 8,227,187; 8,841,072; 8,110,673.

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.
- 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.
- 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.
- 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.
- Kilshaw PJ, Baker KC. A unique surface antigen on intraepithelial lymphocytes in the mouse. *Immunol Lett.* 1988; 18(2):149-154.
- Kilshaw PJ, Murant SJ. A new surface antigen on intraepithelial lymphocytes in the intestine. *Eur J Immunol.* 1990; 20(10):2201-2207.
- 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.

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