

# Technical Data Sheet

## BUV496 Rat Anti-Mouse CD103

### Product Information

Material Number:	741083
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™ BUV496 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome of BD Horizon BUV395 with an Ex Max of 348-nm and an acceptor dye with an Em Max at 496-nm. BD Horizon BUV496 can be excited by the ultraviolet laser (355 nm) and detected with a 515/30 nm filter with a 450LP. Due to the excitation of the acceptor dye by other laser lines, there may be significant spillover into the channel detecting BD Horizon V500 or BV510 (eg, 525/40-nm filter). However, the spillover can be corrected through compensation as with any other dye combination.

### 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 BUV496 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
612951	BUV496 Rat IgG2a, κ Isotype Control R35-95 RUO	50 µg	
554656	Stain Buffer (FBS) RUO	500 mL	
554657	Stain Buffer (BSA) RUO	500 mL	
563794	Brilliant Stain Buffer RUO	100 Tests	
555899	Lysing Buffer RUO	100 mL	
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™) 2.4G2 RUO	0.1 mg	

## 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 [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
7. Please refer to [www.bdbiosciences.com/us/s/resources](http://www.bdbiosciences.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 Ultraviolet 496 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,575,303; and 8,354,239.

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

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