

Technical Data Sheet

PE-CF594 Rat Anti-Mouse LPAM-1

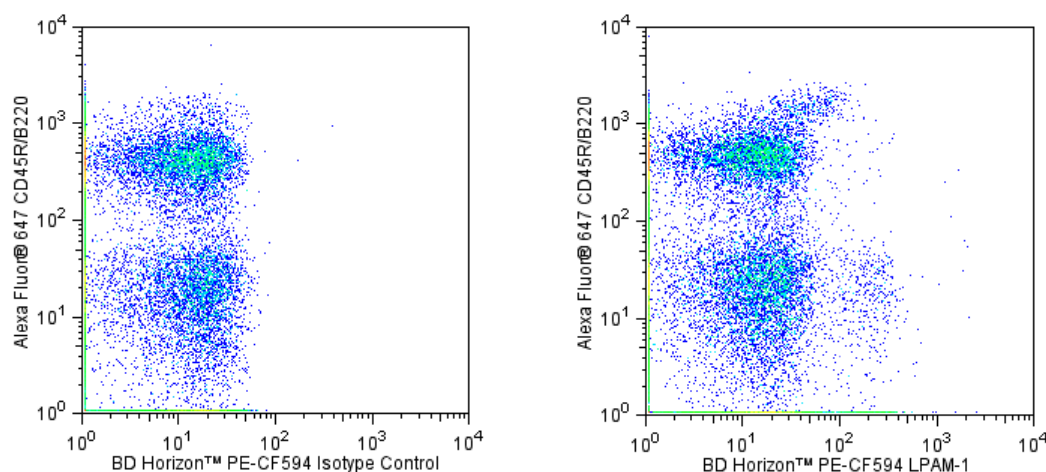
Product Information

Material Number:	562668
Alternate Name:	Itga4Itgb7; $\alpha 4\beta 7$ Integrin; alpha 4 beta 7 integrin; CD49d $\beta 7$
Size:	50 μ g
Concentration:	0.2 mg/ml
Clone:	DATK32
Immunogen:	AKR/Cum mouse T lymphoma line TK1
Isotype:	Rat (F344) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA and $\leq 0.09\%$ sodium azide.

Description

The DATK32 monoclonal antibody specifically binds to an epitope specific for the $\alpha 4\beta 7$ integrin heterodimer. $\alpha 4\beta 7$ (LPAM-1) is expressed on most mature lymphocytes and on small subsets of thymic and bone marrow cells. It interacts with several ligands, including VCAM-1 (CD106), fibronectin, and MAdCAM-1. DATK32 antibody induces $\alpha 4\beta 7$ -dependent lymphocyte aggregation, but it inhibits other $\alpha 4\beta 7$ -mediated lymphocyte adhesion events, including binding to fibronectin, MAdCAM-1, and VCAM-1 (CD106).

This antibody is conjugated to BD Horizon™ PE-CF594, which has been developed exclusively by BD Biosciences as a better alternative to PE-Texas Red®. PE-CF594 excites and emits at similar wavelengths to PE-Texas Red® yet exhibits improved brightness and spectral characteristics. Due to PE having maximal absorption peaks at 496 nm and 564 nm, PE-CF594 can be excited by the blue (488-nm), green (532-nm) and yellow-green (561-nm) lasers and can be detected with the same filter set as PE-Texas Red® (eg 610/20-nm filter).



Multicolor flow cytometric analysis of LPAM-1 expression on C57BL/6 mouse bone marrow cells. Bone marrow cells were stained with Alexa Fluor® 647 Rat Anti-Mouse CD45R/B220 antibody (Cat. No. 557683) and with either BD Horizon™ PE-CF594 Rat IgG2a, κ Isotype Control (Cat. No. 562302; Left Panel) or BD Horizon™ PE-CF594 Rat Anti-Mouse LPAM-1 antibody (Cat. No. 562668; Right Panel). Two-color flow cytometric dot plots show the correlated expression patterns of LPAM-1 (or Ig isotype control staining) versus CD45R/B220 for gated events with the forward and side light-scatter characteristics of viable bone marrow cells. Flow cytometry 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™ PE-CF594 under optimum conditions, and unconjugated antibody and free PE-CF594 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
562302	PE-CF594 Rat IgG2a, κ Isotype Control	0.1 mg	R35-95
554656	Stain Buffer (FBS)	500 ml	(none)
557683	Alexa Fluor® 647 Rat Anti-Mouse CD45R	0.1 mg	RA3-6B2

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to www.bdbiosciences.com/pharming/protocols for technical protocols.
5. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
6. 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.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.
9. CF™ is a trademark of Biotium, Inc.
10. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.
11. This product is provided under an Agreement between BIOTIUM and BD Biosciences. The manufacture, use, sale, offer for sale, or import of this product is subject to one or more patents or pending applications owned or licensed by Biotium, Inc. This product, and only in the amount purchased by buyer, may be used solely for buyer's own internal research, in a manner consistent with the accompanying product literature. No other right to use, sell or otherwise transfer (a) this product, or (b) its components is hereby granted expressly, by implication or by estoppel. This product is for research use only. Diagnostic uses require a separate license from Biotium, Inc. For information on purchasing a license to this product including for purposes other than research, contact Biotium, Inc., 3159 Corporate Place, Hayward, CA 94545, Tel: (510) 265-1027. Fax: (510) 265-1352. Email: btinfo@biotium.com.
12. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using multi-laser cytometers, which may directly excite both PE and CF™594.
13. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.

References

Andrew DP, Berlin C, Honda S, et al. Distinct but overlapping epitopes are involved in alpha 4 beta 7-mediated adhesion to vascular cell adhesion molecule-1, mucosal addressin-1, fibronectin, and lymphocyte aggregation. *J Immunol.* 1194; 153(9):3847-3861. (Immunogen: Blocking, Induction)

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: Blocking)

Berlin C, Berg EL, Briskin MJ, et al. Alpha 4 beta 7 integrin mediates lymphocyte binding to the mucosal vascular addressin MAdCAM-1. *Cell.* 1993; 74(1):185-195. (Clone-specific: Blocking)

Hamann A, Andrew DP, Jablonski-Westrich D, Holzmann B, Butcher EC. Role of alpha 4-integrins in lymphocyte homing to mucosal tissues in vivo. *J Immunol.* 1994; 152(7):3282-3293. (Clone-specific)

Kilshaw PJ, Murrant 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. (Biology)

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