

## Technical Data Sheet

**Oligo Rat Anti-Mouse Integrin  $\beta$ 7 Chain**

## Product Information

Material Number:	940175
Size:	25 Tests
Clone:	M293
Alternative Name:	Itgb7; Integrin $\beta$ p; Integrin beta-P; Integrin beta-7; Ly69; M290 IEL Ag
Reactivity:	Mouse (Tested in Development)
Isotype:	Rat LOU, also known as Louvain, LOU/C, LOU/M IgG2a, $\kappa$
Immunogen:	$\alpha$ IEL $\beta$ 7 integrin from the C57BL/10 mouse T-cell hybridoma MTC-1
Application:	Single Cell 3' Sequencing (Qualified)
Barcode Sequence:	GGATGTCAAGGCGAATTATGTACTAGTGTGTCAAGG
SeqID:	AMM2071
Volume Per Test:	2 $\mu$ l
Entrez Gene ID:	16421
Storage Buffer:	Aqueous buffered solution containing BSA and $\leq$ 0.09% sodium azide.
Regulatory Status:	RUO

**Description**

The M293 monoclonal antibody specifically recognizes the integrin  $\beta$ 7 chain (also known as integrin  $\beta$ p), which is found in association with either of two  $\alpha$  chains.  $\alpha$ 4#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, fibronectin, and MAdCAM-1.  $\alpha$ IEL#7 is found primarily on intestinal mucosal and intraepithelial lymphocytes (IEL), and it may be primarily involved in interactions between IEL and epithelia via recognition of E-cadherin. The epitope recognized by the mAb M293 has been mapped to the region between amino acids 387 and 542. The M293 antibody exhibits little or no activity in blocking  $\beta$ 7 integrin-mediated adhesion.

## Application Notes

The antibody was conjugated to an oligonucleotide that contains an antibody clone-specific barcode (ABC) flanked by a poly-A tail on the 3' end and a PCR handle (PCR primer binding site) on the 5' end. The ABC for this antibody was designed to be used with other BD AbSeq oligonucleotides conjugated to other antibodies. All AbSeq ABC sequences were selected in silico to be unique from human and mouse genomes, have low predicted secondary structure, and have high Hamming distance within the BD AbSeq portfolio, to allow for sequencing error correction and unique mapping. The poly-A tail of the oligonucleotide allows the ABC to be captured by the BD Rhapsody™ system. The 5' PCR handle allows for efficient sequencing library generation for Illumina sequencing platforms.

NOTE: The BD Rhapsody Single-Cell Analysis System must be used with the BD Rhapsody Express Instrument.

**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 and conjugated to BD AbSeq oligonucleotide under optimal conditions.

**Recommended Assay Procedure**

Put all BD AbSeq Reagents to be pooled into a Latch Rack for 500  $\mu$ L Tubes (Thermo Fisher Scientific Cat. No. 4900). Arrange the tubes so that they can be easily uncapped and re-capped with an 8-Channel Screw Cap Tube Capper (Thermo Fisher Scientific Cat. No. 4105MAT) and the reagents aliquoted with a multi-channel pipette. BD AbSeq tubes should be centrifuged for  $\geq$  30 seconds at 400  $\times$  g to ensure removal of any content in the cap/tube threads prior to the first opening.

**Suggested Companion Products**

Catalog Number	Name	Size	Clone
633701	Single-Cell Analysis System	1 Each	
554656	Stain Buffer (FBS)	500 mL	

553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2
553142	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.5 mg	2.4G2

## Product Notices

1. This reagent has been pre-diluted for use at the recommended volume per test. Typical use is 2 µl for 1 × 10<sup>6</sup> cells in a 200-µl staining reaction.
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. Please refer to [bd.com/genomics-resources](http://bd.com/genomics-resources) for technical protocols.
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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. This product is covered by one or more of the following patents: US 8,835,358; US 9,290,808; US 9,290,809; US 9,315,857; US 9,567,645; US 9,567,646; US 9,598,736; US 9,708,659; and US 9,816,137. 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. Diagnostic uses require a separate license.
7. Illumina is a trademark of Illumina, Inc.
8. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).

## 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.* 1994; 153(9):3847-3861.
- 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.
- Gabor MJ, Godfrey DI, Scollay R. Recent thymic emigrants are distinct from most medullary thymocytes. *Eur J Immunol.* 1997; 27(8):2010-2050.
- 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.
- Wagner N, Löhler J, Kunkel EJ, et al. Critical role for beta7 integrins in formation of the gut-associated lymphoid tissue. *Nature.* 1996 July; 382(6589):366-370.

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