

# Technical Data Sheet

## Oligo Mouse Anti-Human IgM

### Product Information

Material Number:	940276
Size:	25 Tests
Clone:	G20-127
Alternative Name:	IGHM; MU; Ig mu chain C region; AGM1; VH
Reactivity:	Human (Tested in Development)
Isotype:	Mouse IgG1, $\kappa$
Application:	Single Cell 3' Sequencing (Qualified)
Barcode Sequence:	TTTGAGGGTAGCTAGTTGCAGTTCGTGGTCGTTTC
SeqID:	AHS0198
Volume Per Test:	2 $\mu$ l
Entrez Gene ID:	3507
Storage Buffer:	Aqueous buffered solution containing BSA and $\leq 0.09\%$ sodium azide.
Regulatory Status:	RUO

### Description

IgM is an important component in the first line of defense against foreign pathogens, but may also play a role in autoimmune diseases. IgM monomers consist of two light and two heavy chains. Unlike the heavy chain of an IgG antibody which contains 3 constant Ig domains, the  $\mu$  heavy chain of IgM contains 4 constant Ig domains. Five IgM monomers complex with a small polypeptide (J-chain) to form pentameric IgM that can be found in human plasma. In an immune response, the binding of IgM to a cell surface antigen enables C1q to activate interactions with downstream components in the classical complement pathway. Mature B lymphocytes express IgM. The G20-127 monoclonal antibody binds to the heavy chain of human IgM. The G20-127 antibody is not thought to react with other immunoglobulin heavy chain isotypes.

### 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 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 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
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554656	Stain Buffer (FBS) RUO	500 mL
633701	Single-Cell Analysis System RUO	1 Each
564219	Human BD Fc Block™ RUO	50 mg
564220	Human BD Fc Block™ RUO	0.25 mg

## 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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. 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.
4. 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.
5. Illumina is a trademark of Illumina, Inc.
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. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
8. Please refer to [bd.com/genomics-resources](http://bd.com/genomics-resources) for technical protocols.

## References

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Mei HE, Yoshida T, Sime W, et al. Blood-borne human plasma cells in steady state are derived from mucosal immune responses. *Blood.* 2009; 113(11):2461-2469.

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Zola H, Macardle PJ, Flego L, Webster J. The expression of sub-population markers on B cells: a re-evaluation using high-sensitivity fluorescence flow cytometry. *Dis Markers.* 1991; 9(2):103-118.

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