

# Technical Data Sheet

## Oligo Mouse Anti-Human CD96

### Product Information

Material Number:	940272
Size:	25 Tests
Clone:	6F9
Alternative Name:	TACTILE; T cell activation increased late expression
Reactivity:	Human (Tested in Development)
Isotype:	Mouse IgG1, $\kappa$
Immunogen:	Human CD96 Transfected Cell Line
Application:	Single Cell 3' Sequencing (Qualified)
Barcode Sequence:	CTAATGTAAGAGCGGACGTTTGGGCACTATATGTTT
SeqID:	AHS0194
Volume Per Test:	2 $\mu$ l
Entrez Gene ID:	10225
Storage Buffer:	Aqueous buffered solution containing BSA and $\leq 0.09\%$ sodium azide.
Regulatory Status:	RUO

### Description

The 6F9 monoclonal antibody specifically binds to human CD96, also known as TACTILE (T cell activation increased late expression). CD96 is a type I transmembrane glycoprotein and member of the Ig superfamily. CD96 is expressed at low levels on resting natural killer (NK) cells and T cells and at high levels on activated NK and T cells. CD96 is also expressed on some T-cell leukemia and acute myeloid leukemia cells. CD96 may serve as a marker for acute myelogenous leukemia stem cells. CD96 plays a role in the adhesive interactions of activated NK and T cells during immune responses. CD96 binds to the poliovirus receptor (CD155) that is highly expressed by some tumor cells. CD155-mediated ligation of CD96 can induce NK cell-mediated cytotoxicity. CD96-mediated uptake of CD155 may adversely affect NK cells and thus reduce their effectiveness in anti-tumor responses.

#### 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
554656	Stain Buffer (FBS)	500 mL

633701	Single-Cell Analysis System	1 Each
564219	Human BD Fc Block™	50 mg
564220	Human BD Fc Block™	0.25 mg

## Product Notices

1. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
2. 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.
3. 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.
4. Illumina is a trademark of Illumina, Inc.
5. Please refer to [bd.com/genomics-resources](http://bd.com/genomics-resources) for technical protocols.
6. 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.
7. 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.
8. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).

## References

Fuchs A, Cella M, Giurisato E, Shaw AS, Colonna M.. Cutting edge: CD96 (tactile) promotes NK cell-target cell adhesion by interacting with the poliovirus receptor (CD155). *J Immunol.* 2004; 172(7):3994-3998.

Hosen N, Park CY, Tatsumi N, et al. CD96 is a leukemic stem cell-specific marker in human acute myeloid leukemia. *Proc Natl Acad Sci U S A.* 2007; 104(26):11008-11013.

Majeti R. Monoclonal antibody therapy directed against human acute myeloid leukemia stem cells. *Oncogene.* 2011; 30(9):1009-1019.

Wang PL, O'Farrell S, Clayberger C, Krensky AM. Identification and molecular cloning of tactile. A novel human T cell activation antigen that is a member of the Ig gene superfamily. *J Immunol.* 1992; 148(8):2600-2608.

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