Technical Data Sheet

Oligo Mouse Anti-Human CD8b

Product Information

Material Number:	940231
Size:	25 Tests
Clone:	2ST8.5H7
Alternative Name:	CD8B; CD8B1; CD8 beta; CD8β; Leu2; Ly3; LYT3
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG2a, κ
Immunogen:	CD8+ suppressor T-cell
Application:	Single Cell 3' Sequencing (Qualified)
Barcode Sequence:	TGGCAAGTAAGGTCTAGTGTATGATCGGTGAGTGTC
SeqID:	AHS0145
Volume Per Test:	2 µl
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 2ST8.5H7 monoclonal antibody specifically recognizes an epitope formed by the combination of CD8 alpha and beta chains. The majority of peripheral blood CD8+ T lymphocytes expresses a CD8αβ heterodimer (32, 30 kilodaltons (kDa)), while CD8+CD16+ natural killer (NK) cells and CD8+ TCR γδ+ T lymphocytes express CD8αα homodimers. The 2ST8.5H7 antibody can therefore be used to selectively bind to CD8+ T cells while excluding CD8+ NK cells. CD8 binds to class I major histocompatibility (MHC) molecules, resulting in increased adhesion between the CD8+ T lymphocytes and target cells. Binding of CD8 to class I MHC molecules enhances the activation of resting T lymphocytes. CD8 is coupled to a protein tyrosine kinase, p56lck. The CD8:p56lck complex can play a role in T-lymphocyte activation through mediation of the interactions between CD8 and the CD3/TCR complex. The CD8β antigen is present on the human suppressor/cytotoxic T-lymphocyte subset. The CD8 antigen is expressed on 19% to 48% of normal peripheral blood lymphocytes and 60% to 85% of normal thymocytes. The 2ST8.5H7 antibody crossreacts with lymphocytes of some nonhuman primate species.

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 µL 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 ≥ 30 seconds at 400 × 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. This reagent has been pre-diluted for use at the recommended volume per test. Typical use is 2 µl for 1 × 10^6 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 for technical protocols.

References

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