

Technical Data Sheet

BUV737 Mouse Anti-Human CD8b

Product Information

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| Material Number: | 748324 |
| Size: | 50 µg |
| 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: | Flow cytometry (Qualified) |
| Concentration: | 0.2 mg/ml |
| Storage Buffer: | Aqueous buffered solution containing ≤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.

The antibody was conjugated to BD Horizon™ BUV737 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome of BD Horizon BUV395 with an Ex Max of 348-nm and an acceptor dye with an Em Max at 737-nm. BD Horizon Brilliant BUV737 can be excited by the ultraviolet laser (355 nm) and detected with a 740/35 filter. Due to the excitation of the acceptor dye by other laser lines, there may be significant spillover into channels detecting Alexa Fluor® 700-like dyes (eg, 712/20-nm filter).

Due to spectral differences between labeled cells and beads, using BD™ CompBeads can result in incorrect spillover values when used with BD Horizon BUV737 reagents. Therefore, the use of BD CompBeads or BD CompBeads Plus to determine spillover values for these reagents is not recommended. Different BUV737 reagents (eg, CD4 vs. CD45) can have slightly different fluorescence spillover therefore, it may also be necessary to use clone specific compensation controls when using these reagents.

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 BUV737 under optimal conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes (including BD OptiBuild Brilliant reagents) are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).

Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|----------------|---------------------------------------|-------|----------|
| 612765 | BUV737 Mouse IgG2a, κ Isotype Control | 50 µg | G155-178 |

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| 349202 | Lysing Solution 10X Concentrate | 100 NA |
| 564219 | Human BD Fc Block™ | 50 mg |
| 554656 | Stain Buffer (FBS) | 500 mL |
| 554657 | Stain Buffer (BSA) | 500 mL |
| 563794 | Brilliant Stain Buffer | 100 Tests |
| 555899 | Lysing Buffer | 100 mL |

Product Notices

1. This antibody was developed for use in flow cytometry.
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. Researchers should determine the optimal concentration of this reagent for their individual applications.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. 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.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at wwwbdbiosciences.com/colors.
7. Please refer to wwwbdbiosciences.com/us/s/resources for technical protocols.
8. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
9. BD Horizon Brilliant Ultraviolet 737 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,575,303; 8,354,239.

References

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