

Technical Data Sheet

BV480 Mouse Anti-Human CD3

Product Information

Material Number:	750981
Size:	50 µg
Clone:	OKT3
Alternative Name:	CD3E; CD3e; T-cell surface antigen T3/Leu-4 epsilon; T3E; TCRE
Reactivity:	Human (Tested in Development)
Isotype:	Mouse IgG2a, κ
Immunogen:	Sheep Erythrocyte Rosette-purified Human T Cells
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The OKT3 monoclonal antibody specifically recognizes the CD3 epsilon subunit (CD3e/CD3 ϵ) of the CD3 complex which consists of four transmembrane proteins (γ , δ , ϵ , ζ) that are associated with the T cell antigen receptor (TCR) to form the CD3/TCR complex. The CD3 complex associates with either TCR $\alpha\alpha$ or TCR $\alpha\beta$ heterodimers that are alternatively expressed by some thymocytes, T cells or NKT cells. The CD3 complex is required for the cell surface expression and signal-transducing functions of the TCR. The CD3 complex is expressed by ~60-85% thymocytes and by all peripheral mature T cells. CD3e is also known as T3E or TCRE. CD3e is a ~20 kDa unglycosylated type I transmembrane protein that is encoded by CD3E which belongs to the immunoglobulin superfamily (IgSF). CD3e has an Ig-like extracellular domain (ECD) and an immunoreceptor tyrosine-based activation motif (ITAM) in its cytoplasmic domain. The OKT3 antibody can reportedly fix complement, stimulate T cell proliferation and cytokine production, and block the binding of other human CD3e-specific antibodies including UCHT1 and SK7.

The antibody was conjugated to BD Horizon BV480 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 436-nm and Em Max at 478-nm, BD Horizon BV480 can be excited by the violet laser and detected in the BD Horizon BV510 (525/40-nm) filter set. BV480 has less spillover into the BV605 detector and, in general, is brighter than BV510.

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 to the dye under optimum conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to BD CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and BD CompBead to ensure that BD CompBeads are appropriate for your specific cellular application.

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes 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. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385).

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	

554657	Stain Buffer (BSA)	500 mL	
563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	
349202	Lysing Solution 10X Concentrate	100 NA	
564219	Human BD Fc Block™	50 mg	
566089	BV480 Mouse IgG2a, κ Isotype Control	50 µg	G155-178
566385	Brilliant Stain Buffer Plus	1000 Tests	
566349	Brilliant Stain Buffer	1000 Tests	

Product Notices

1. 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.
2. Researchers should determine the optimal concentration of this reagent for their individual applications.
3. An isotype control should be used at the same concentration as the antibody of interest.
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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
7. 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.
8. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
9. BD Horizon Brilliant Violet 480 is covered by one or more of the following US patents: 8,575,303; 8,354,239.
10. ProLong® is a registered trademark of Thermo Fisher Scientific, Inc. Waltham, MA.
11. BD Horizon Brilliant Violet 480 is covered by one or more of the following US patents: 8,575,303; 8,354,239.

References

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