

Technical Data Sheet

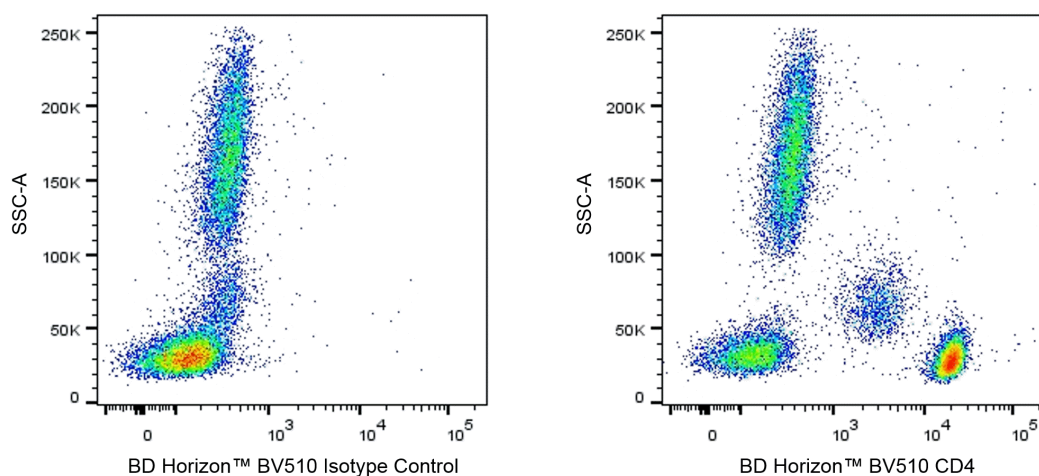
BV510 Mouse Anti-Human CD4**Product Information**

Material Number:	566805
Alternate Name:	CD4 antigen (p55); T-cell surface antigen T4/Leu-3
Size:	25 Tests
Vol. per Test:	5 µl
Clone:	OKT4
Immunogen:	Sheep Erythrocyte Rosette-purified Human T Cells
Isotype:	Mouse (BALB/c x A/J, also known as CAF1) IgG2b, κ
Reactivity:	QC Testing: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The OKT4 monoclonal antibody specifically recognizes CD4 which is also known as T4 and Leu-3. CD4 is expressed on most thymocytes, T-helper/inducer cells, regulatory T cells (Tregs), and NKT cells. It is also variably expressed on monocytes, macrophages, and some dendritic cells. CD4 is a ~55 kDa type I transmembrane glycoprotein that is encoded by *CD4* which belongs to the immunoglobulin superfamily (IgSF). CD4 binds to a nonpolymorphic region of MHC class II and serves as a coreceptor, along with the T cell receptor for antigen (TCR), for the MHC Class II-restricted recognition of antigens on antigen-presenting cells. CD4 also functions as a receptor for human immunodeficiency viruses (HIV). CD4 has four immunoglobulin-like extracellular domains in its extracellular region and a CXCP binding motif for p56Lck in its cytoplasmic domain which regulates the antigen-bound TCR-induced signaling cascade.

The antibody was conjugated to BD Horizon BV510 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 405-nm and Em Max at 510-nm, BD Horizon BV510 can be excited by the violet laser and detected in the BD Horizon V500 (525/50-nm) filter set. BD Horizon BV510 conjugates are useful for the detection of dim markers off the violet laser.



Multiparameter flow cytometric analysis of CD4 expression on human peripheral blood leucocyte populations. Human whole blood was stained with either BD Horizon™ BV510 Mouse IgG2b, κ Isotype Control (Cat. No. 563025; Left Plot) or BD Horizon BV510 Mouse Anti-Human CD4 antibody (Cat. No. 566804/566805; Right Plot). Erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The two-parameter pseudocolor dot plot showing the correlated expression of CD4 (or Ig Isotype control staining) versus side light-scatter (SSC) signals was derived from gated events with the forward and side light-scatter characteristics of viable leucocyte populations. Flow cytometry and data analysis were performed using a BD FACSCelesta™ Flow Cytometer System and FlowJo™ software.

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™ BV510 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV510 were removed.

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Application Notes

Application

Flow cytometry

Routinely Tested

Recommended Assay Procedure:

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	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
563794	Brilliant Stain Buffer	100 Tests	(none)
566349	Brilliant Stain Buffer	1000 Tests	(none)
566385	Brilliant Stain Buffer Plus	1000 Tests	(none)
563025	BV510 Mouse IgG2b, κ Isotype Control	50 μ g	27-35
566804	BV510 Mouse Anti-Human CD4	100 Tests	OKT4
555899	Lysing Buffer	100 mL	(none)
349202	BD FACSTM Lysing Solution	100 mL	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100- μ l experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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. BD Horizon Brilliant Violet 510 is covered by one or more of the following US patents: 8,575,303; 8,354,239.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
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. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.

References

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