

Technical Data Sheet

BUV615 Mouse Anti-Human CD4

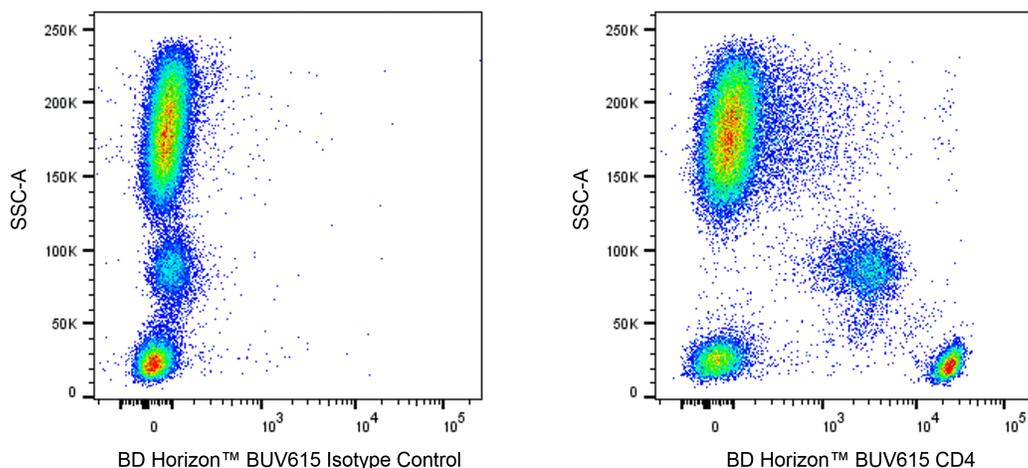
Product Information

Material Number:	612988
Alternate Name:	L3T4; Leu3a; T-cell surface antigen T4/Leu-3 ; W3/25 ; CD4 antigen (p55)
Size:	25 Tests
Vol. per Test:	5 µl
Clone:	SK3 (also known as Leu3a)
Immunogen:	Human Peripheral Blood T Cells
Isotype:	Mouse (BALB/c) IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	I T38; III T140,496
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The SK3 monoclonal antibody specifically binds to CD4. The CD4 antigen is a 55 kDa type I transmembrane glycoprotein that belongs to the immunoglobulin superfamily. It is expressed on T-helper/inducer lymphocytes and monocytes. CD3+CD4+ T cells comprise approximately 28% to 58% of normal peripheral blood lymphocytes. CD4 is also expressed on 80% to 95% of normal thymocytes. The CD4 antigen is present in low density on the cell surface of monocytes and in the cytoplasm of monocytes and macrophages (CD3-CD4+). CD4 serves as a T cell coreceptor for MHC class II antigen recognition and as a receptor for the human immunodeficiency virus (HIV). The SK3 antibody inhibits HIV binding to CD4+ cells.

The antibody was conjugated to BD Horizon BUV615 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome with an Ex Max near 350 nm and an Em Max near 615 nm. BD Horizon Brilliant BUV615 can be excited by the ultraviolet laser (355 nm) and detected with a 610/20 filter and a 595 nm LP. Due to the excitation of the acceptor dye by the blue/yellow-green laser line, there may be significant spillover into channels detecting PE-CF594 like emissions (eg, 610/20-nm filter).



Multiparameter flow cytometric analysis of CD4 expression on human peripheral blood leucocyte populations. Whole blood was stained with either BD Horizon™ BUV615 Mouse IgG1, κ Isotype Control (Cat. No. 612986; Left Plot) or BD Horizon BUV615 Mouse Anti-Human CD4 antibody (Cat. No. 612987/612988; Right Plot). The erythrocytes were lysed with BD FACS™ Lysing Solution (Cat. No. 349202). A two-parameter pseudocolor density plot showing the correlated expression of CD4 (or Ig Isotype control staining) versus side light-scatter (SSC-A) signals was derived from gated events with the forward and side light-scatter characteristics of intact leucocyte populations. Flow cytometry and data analysis were performed using a BD LSRFortessa™ X-20 Cell Analyzer 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 to the dye under optimum conditions and unconjugated antibody and free dye were removed.

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Application Notes

Application

Flow cytometry

Routinely Tested

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).

Note: When using high concentrations of antibody, background binding of this dye to erythroid cell subsets (mature erythrocytes and precursors) has been observed. For researchers studying these cell populations, or in cases where light scatter gating does not adequately exclude these cells from the analysis, this background may be an important factor to consider when selecting reagents for panel(s).

Suggested Companion Products

Catalog Number	Name	Size	Clone
563794	Brilliant Stain Buffer	100 Tests	(none)
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
566349	Brilliant Stain Buffer	1000 Tests	(none)
566385	Brilliant Stain Buffer Plus	1000 Tests	(none)
612987	BUV615 Mouse Anti-Human CD4	100 Tests	SK3
612986	BUV615 Mouse IgG1, κ Isotype Control	50 µg	X40
349202	BD FACST™ Lysing Solution	100 mL	(none)
555899	Lysing Buffer	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-µl experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
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. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
5. 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.
6. BD Horizon Brilliant Ultraviolet 615 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.
7. Please refer to <http://regdocs.bd.com> to access safety data sheets (SDS).
8. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.

References

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(Clone-specific: Flow cytometry)

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