Technical Data Sheet

BUV496 Mouse Anti-Human CD38

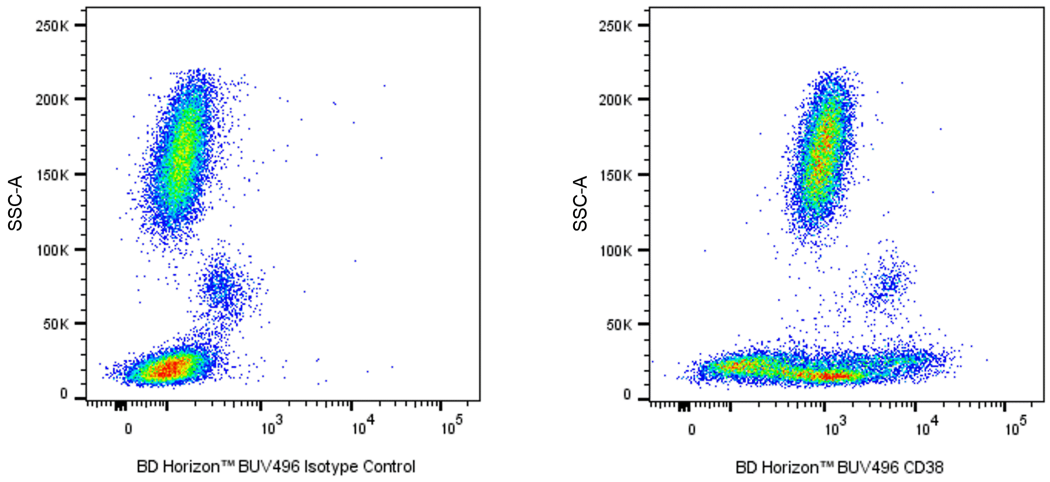
Product Information

Material Number:	**612947**
Alternate Name:	T10; ADP-ribosyl cyclase 1; Cyclic ADP-ribose hydrolase 1; gp45
Size:	25 Tests
Vol. per Test:	5 µl
Clone:	HIT2
Isotype:	Mouse IgG1, κ
Reactivity:	QC Testing: Human
Workshop:	III T155
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The HIT2 monoclonal antibody specifically binds to CD38. The CD38 antigen is also known as T10, ADP-ribosyl cyclase 1, and cyclic ADP ribose hydrolase 1. CD38 is a 45 kDa type II single-chain transmembrane glycoprotein present on thymocytes, activated T cells and terminally differentiated B cells (plasma cells). CD38 is expressed by other cells including monocytes, macrophages, dendritic cells, NK cells, myeloid and erythroid precursors and some epithelial cells. The CD38 antigen acts as an ectoenzyme that catalyzes the synthesis and hydrolysis of a Ca++ mobilizing agent, cyclic ADP-ribose. This intracellular calcium plays an important role in cell signaling pathways leading to cellular growth, apoptosis, and differentiation. CD38 binds to CD31 and thus plays a role in lymphocyte adhesion to endothelial cells.

The antibody was conjugated to BD Horizon BUV496 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 496-nm. BD Horizon BUV496 can be excited by the ultraviolet laser (355 nm) and detected with a 515/30 nm filter with a 450LP. Due to the excitation of the acceptor dye by other laser lines, there may be significant spillover into the channel detecting BD Horizon V500 or BV510 (eg, 525/40-nm filter). However, the spillover can be corrected through compensation as with any other dye combination.



Multiparameter flow cytometric analysis of CD38 expression on human peripheral blood leucocyte populations. *Whole blood was stained with either BD Horizon™ BUV496 Mouse IgG1, κ Isotype Control (Cat. No. 612949; Left Plot) or BD Horizon BUV496 Mouse Anti-Human CD38 antibody (Cat. No. 612946/612947; 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 CD38 (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 with BD Horizon BUV496 under optimum conditions, and unconjugated antibody and free BD Horizon BUV496 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).

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
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)
555899	Lysing Buffer	100 mL	(none)
349202	BD FACS™ Lysing Solution	100 mL	(none)
612949	BUV496 Mouse IgG1, κ Isotype Control	50 µg	X40
612946	BUV496 Mouse Anti-Human CD38	100 Tests	HIT2

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 Ultraviolet 496 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.
6. 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.
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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