Technical Data Sheet

PE-CF594 Mouse Anti-Human CD48

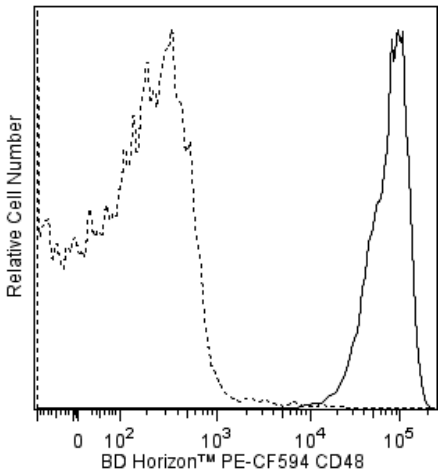
Product Information

Material Number:	**562717**
Alternate Name:	BCM1; BLAST; BLAST1; Hulym3; MEM-102; OX45; SLAMF2; TCT.1
Size:	100 tests
Vol. per Test:	5 µl
Clone:	TÜ145
Isotype:	Mouse IgM, κ
Reactivity:	QC Testing: Human
Workshop:	IV N68
Storage Buffer:	Aqueous buffered solution containing BSA, protein stabilizer, and ≤0.09% sodium azide.

Description

The TÜ145 monoclonal antibody specifically binds to CD48. CD48 belongs to the CD2 family within the immunoglobulin superfamily. CD48 is a ~43 kDa glycosylphosphatidylinositol (GPI)-anchored single chain glycoprotein. CD48 is strongly expressed on lymphocytes, monocytes and macrophages and weakly on granulocytes. The expression of CD48 is upregulated following lymphocyte activation and by Epstein-Barr virus (EBV) infection. CD48 binds with high affinity to CD244 and with low affinity to CD2. These receptor-ligand interactions can augment or inhibit leukocyte responses.

This antibody is conjugated to BD Horizon™ PE-CF594, which has been developed exclusively by BD Biosciences as a better alternative to PE-Texas Red®. PE-CF594 excites and emits at similar wavelengths to PE-Texas Red® yet exhibits improved brightness and spectral characteristics. Due to PE having maximal absorption peaks at 496 nm and 564 nm, PE-CF594 can be excited by the blue (488-nm), green (532-nm) and yellow-green (561-nm) lasers and can be detected with the same filter set as PE-Texas Red® (eg 610/20-nm filter).



Flow cytometric analysis of CD48 expression on human peripheral blood lymphocytes. *Whole blood was stained with BD Horizon™ PE-CF594 Mouse Anti-Human CD48 antibody (Cat. No. 562717; solid line histogram) or with a BD Horizon™ PE-CF594 Rat Anti-Mouse IgM (Cat. No. 562565; dashed line histogram). The erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms were derived from events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.*

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™ PE-CF594 under optimum conditions, and unconjugated antibody and free PE-CF594 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)

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555899	Lysing Buffer	100 ml	(none)
562565	PE-CF594 Rat Anti-Mouse IgM	50 µg	R6-60.2

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. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
5. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
6. 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.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Texas Red is a registered trademark of Molecular Probes, Inc., Eugene, OR.
9. CF™ is a trademark of Biotium, Inc.
10. When excited by the yellow-green (561-nm) laser, the fluorescence may be brighter than when excited by the blue (488-nm) laser.
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12. Because of the broad absorption spectrum of the tandem fluorochrome, extra care must be taken when using multi-laser cytometers, which may directly excite both PE and CF™594.

References

Elishmereni M, Levi-Schaffer F. CD48: A co-stimulatory receptor of immunity. *Int J Biochem Cell Biol.* 2011; 43(1):25-28. (Biology)

Knapp W, Dorken B, Rieber EP, et al, ed. *Leucocyte Typing IV*. New York: Oxford University Press; 1989:1-1208. (Clone-specific)

Nedvetzki S, Sowinski S, Eagle RA, et al. Reciprocal regulation of human natural killer cells and macrophages associated with distinct immune synapses. *Blood.* 2007; 109(9):3776-3785. (Clone-specific: Flow cytometry, Inhibition)

Sandrin MS, Mouhtouris E, Vaughan HA, Warren HS, Parish CR. CD48 is a low affinity ligand for human CD2. *J Immunol.* 1993; 151(9):4606-4613. (Biology)

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