Technical Data Sheet

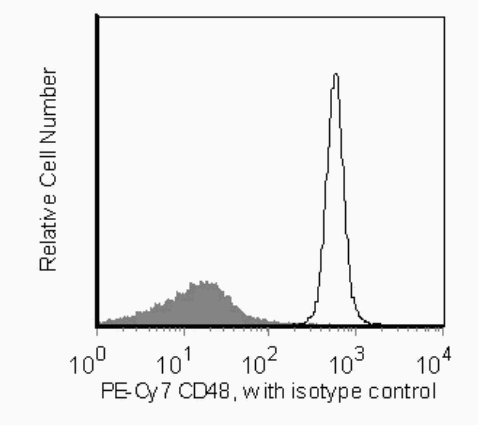
PE-Cy™7 Hamster Anti-Mouse CD48

Product Information

Material Number:	**560731**
Alternate Name:	BLAST; BLAST-1; BCM1; HM48-1; MEM-102; Sgp-60; SLAMF2
Size:	50 µg
Concentration:	0.2 mg/ml
Clone:	HM48-1
Immunogen:	Mouse T lymphoma MBL-2
Isotype:	Armenian Hamster IgG1, λ3
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

The HM48-1 monoclonal antibody specifically binds to CD48 (previously known as BCM1 in mice, Blast-1 in human, and OX-45 in the rat), a GPI-anchored member of the Ig superfamily. It is widely distributed on leukocytes, but not on non-hematopoietic cells, and its ligands include CD2 (LFA-2) and CD244 (2B4 antigen). The HM48-1 mAb blocks binding of soluble CD2 to CD48-bearing cells, blocks the interaction of CD2 and CD244, inhibits spleen cell proliferative responses to mitogens, augments the proliferative response of spleen cells when cross-linked with anti-CD3e mAbs, and inhibits priming of CTL in vitro. In vivo administration of HM48-1 antibody can prolong survival of cardiac allografts, an effect which is greatly enhanced by the addition of anti-CD2 mAb 12-15. This hamster mAb to a mouse leukocyte antigen does not cross-react with rat leukocytes.



Flow cytometric analysis of CD48 on mouse splenocytes. *Splenocytes from BALB/c mice were stained either with a PE-Cy™7 Hamster IgG1, λ1 isotype control (shaded) or with the PE-Cy™7 Hamster Anti-Mouse CD48 antibody (unshaded). Histograms were derived from gated events based on light scattering characteristics for lymphocytes. Flow cytometry was performed on a BD™ LSR II flow cytometry 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 PE-Cy7 under optimum conditions, and unconjugated antibody and free PE-Cy7 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
557798	PE-Cy™7 Hamster IgG1, λ1 Isotype Control	0.1 mg	G235-2356
553141	Purified Rat Anti-Mouse CD16/CD32 (Mouse BD Fc Block™)	0.1 mg	2.4G2

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Warning: Some APC-Cy7 and PE-Cy7 conjugates show changes in their emission spectrum with prolonged exposure to formaldehyde. If you are unable to analyze fixed samples within four hours, we recommend that you use BD™ Stabilizing Fixative (Cat. No. 338036).

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.268.5430	32.53.720.550	0120.8555.90	65.6861.0633	0800.771.7157

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

4. 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.
5. Cy is a trademark of Amersham Biosciences Limited. This conjugated product is sold under license to the following patents: US Patent Nos. 5,486,616; 5,569,587; 5,569,766; 5,627,027.
6. This product is subject to proprietary rights of Amersham Biosciences Corp. and Carnegie Mellon University and made and sold under license from Amersham Biosciences Corp. This product is licensed for sale only for research. It is not licensed for any other use. If you require a commercial license to use this product and do not have one return this material, unopened to BD Biosciences, 10975 Torreyana Rd, San Diego, CA 92121 and any money paid for the material will be refunded.
7. PE-Cy7 is a tandem fluorochrome composed of R-phycoerythrin (PE), which is excited by 488-nm light and serves as an energy donor, coupled to the cyanine dye Cy7, which acts as an energy acceptor and fluoresces maximally at 780 nm. PE-Cy7 tandem fluorochrome emission is collected in a detector for fluorescence wavelengths of 750 nm and higher. Although every effort is made to minimize the lot-to-lot variation in the efficiency of the fluorochrome energy transfer, differences in the residual emission from PE may be observed. Therefore, we recommend that individual compensation controls be performed for every PE-Cy7 conjugate. PE-Cy7 is optimized for use with a single argon ion laser emitting 488-nm light, and there is no significant overlap between PE-Cy7 and FITC emission spectra. When using dual-laser cytometers, which may directly excite both PE and Cy7, we recommend the use of cross-beam compensation during data acquisition or software compensation during data analysis.
8. 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.
9. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at www.bdbiosciences.com/colors.
10. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Brown MH, Boles K, van der Merwe PA, Kumar V, Mathew PA, Barclay AN. 2B4, the natural killer and T cell immunoglobulin superfamily surface protein, is a ligand for CD48. *J Exp Med.* 1998; 188(11):2083-2090. (Biology)

Kato K, Koyanagi M, Okada H, et al. CD48 is a counter-receptor for mouse CD2 and is involved in T cell activation. *J Exp Med.* 1992; 176(5):1241-1249. (Immunogen)

Latchman Y, McKay PF, Reiser H. Identification of the 2B4 molecule as a counter-receptor for CD48. *J Immunol.* 1998; 161(11):5809-5812. (Biology)

Qin L, Chavin KD, Lin J, Yagita H, Bromberg JS. Anti-CD2 receptor and anti-CD2 ligand (CD48) antibodies synergize to prolong allograft survival. *J Exp Med.* 1994; 179(1):341-346. (Biology)

Wong YW, Williams AF, Kingsmore SF, Seldin MF. Structure, expression, and genetic linkage of the mouse BCM1 (OX45 or Blast-1) antigen. Evidence for genetic duplication giving rise to the BCM1 region on mouse chromosome 1 and the CD2/LFA3 region on mouse chromosome 3. *J Exp Med.* 1990; 171(6):2115-2130. (Biology)