

DESCRIPTION

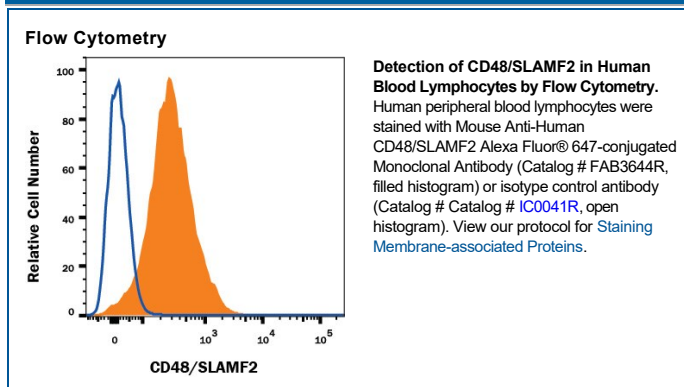
Species Reactivity	Human
Specificity	Detects human CD48/SLAMF2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse CD48 or recombinant human OX40 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 394607
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD48/SLAMF2 Gln27-Ser220 Accession # P09326.2
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	See Below

DATA



PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. <ul style="list-style-type: none"> 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

CD48, also known as BLAST-1, BCM-1, and SLAMF2, is a 65 kDa GPI-linked protein in the CD2 family of immunoglobulin superfamily molecules (1-3). The human CD48 cDNA encodes a 243 amino acid (aa) precursor that includes a 26 aa signal sequence, a 194 aa mature protein that contains one Ig-like V-type domain and one Ig-like C2-type domain, and a 23 aa C-terminal propeptide (4). A soluble form of CD48 has been detected in the serum of lymphoid leukemia and arthritis patients (5). Human CD48 shares approximately 50% aa sequence identity with mouse and rat CD48. It shares 20%-26% aa sequence identity with comparable regions of human CD2 family members 2B4, CD2, BLAME, CD2F-10, CD84, CD229, CRACC, NTB-A, and SLAM. CD48 is expressed on most lineage-committed hematopoietic cells but not on hematopoietic stem cells or multipotent hematopoietic progenitors (4, 6). Among dendritic cells (DC), CD48 is selectively expressed on circulating myeloid DC and resident bone marrow and thymus DC (7). CD2, 2B4, and heparan sulfate function as CD48 ligands (8-10). CD48 is competent to transduce signals and can also trigger signaling through CD2 or 2B4 (8, 11). CD48-CD2 interactions promote T cell activation and class switching to IgG_{2a} in B cells (8, 12). High affinity CD48-2B4 interactions can either promote or inhibit NK cell and cytotoxic T cell (CTL) activation (7, 11, 13, 14). In mouse, CD48-2B4 ligation does not directly trigger CTL activity but enhances signaling from the T cell receptor (13). CD48-2B4 mediated inhibition of NK cell activity is distinct from MHC I-restricted mechanisms (15). CD48 expressed on NK cells is coactivating, whereas CD48 expressed on other cell types inhibits NK cell activation (14). Both CD48 expressing and non-expressing cells can be targets of NK cell or CTL-mediated lysis (13, 16).

References:

1. Assarsson, E. *et al.* (2005) *J. Immunol.* **175**:2045.
2. Bhat, R. *et al.* (2006) *J. Leukocyte Biol.* **79**:417.
3. Loertscher, R. and P. Lavery (2002) *Transpl. Immunol.* **9**:93.
4. Wong, Y.W. *et al.* (1990) *J. Exp. Med.* **171**:2115.
5. Smith, G.M. *et al.* (1997) *J. Clin. Immunol.* **17**:502.
6. Keil, M.J. *et al.* (2005) *Cell* **121**:1109.
7. Morandi, B. *et al.* (2005) *J. Immunol.* **175**:3690.
8. Kato, K. *et al.* (1992) *J. Exp. Med.* **176**:1241.
9. Latchman, Y. *et al.* (1998) *J. Immunol.* **161**:5809.
10. Ianelli, C.J. *et al.* (1998) *J. Biol. Chem.* **273**:23367.
11. Messmer, B. *et al.* (2006) *J. Immunol.* **176**:4646.
12. Gao, N. *et al.* (2005) *J. Immunol.* **174**:4113.
13. Lee, K-M. *et al.* (2003) *J. Immunol.* **170**:4881.
14. Lee, K-M. *et al.* (2006) *Blood* **107**:3181.
15. McNerney, M.E. *et al.* (2005) *Blood* **106**:1337.
16. Lee, K-M. *et al.* (2004) *J. Exp. Med.* **199**:1245.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.