

DESCRIPTION

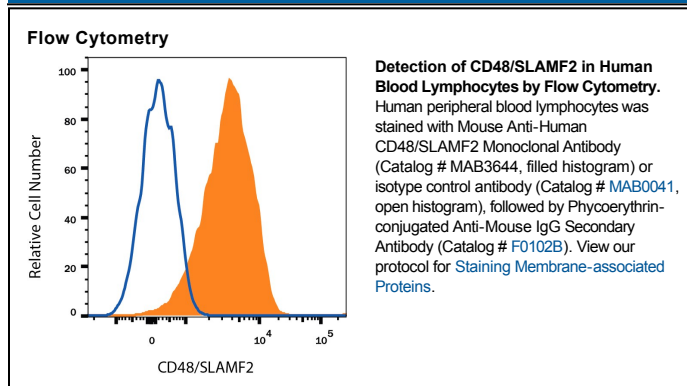
Species Reactivity	Human
Specificity	Detects human CD48/SLAMF2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse CD48 or recombinant human OX40 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 394607
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD48/SLAMF2 Gln27-Ser220 Accession # P09326.2
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

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
Western Blot	1 µg/mL	Recombinant Human CD48/SLAMF2 (Catalog # 3644-CD) under non-reducing conditions only
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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.