

DESCRIPTION

| | |
|---------------------------|---|
| Species Reactivity | Mouse |
| Specificity | Detects mouse 2B4/CD244/SLAMF4 in direct ELISAs and Western blots. In direct ELISAs, approximately 5% cross-reactivity with recombinant human (rh) 2B4 is observed and less than 1% cross-reactivity with rhSLAM is observed. |
| Source | Polyclonal Goat IgG |
| Purification | Antigen Affinity-purified |
| Immunogen | Mouse myeloma cell line NS0-derived recombinant mouse 2B4/CD244/SLAMF4 His17-Asn221 Accession # Q07763 |
| 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 either lyophilized or 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 | 0.1 µg/mL | Recombinant Mouse 2B4/CD244/SLAMF4 Fc Chimera (Catalog # 3514-2B) |
| Flow Cytometry | 2.5 µg/10 ⁶ cells | Mouse NK1.1 ⁺ splenocytes |
| Immunohistochemistry | 5-15 µg/mL | Perfusion fixed frozen sections of mouse small intestine (Peyer's patch) and thymus |
| CyTOF-ready | Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation. | |

PREPARATION AND STORAGE

| | |
|--------------------------------|--|
| Reconstitution | Reconstitute at 0.2 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

2B4, also known as CD244 and SLAMF4, is a 66 kDa type I transmembrane glycoprotein in the SLAM subgroup of the CD2 protein family. SLAM family proteins have an extracellular domain (ECD) with two or four Ig-like domains and at least two cytoplasmic immunoreceptor tyrosine-based switch motifs (ITSMs). 2B4 interacts with CD48, while other SLAM family proteins interact in a homophilic manner (1-4). The mouse 2B4 cDNA encodes a 397 amino acid (aa) precursor that includes a 19 aa signal sequence, a 207 aa ECD with one Ig-like V-type and one C2-type Ig-like domain, a 21 aa transmembrane segment, and a 150 aa cytoplasmic domain with four ITSMs (5, 6). A short splice variant of mouse 2B4 contains only one ITSM (6). Within the ECD, mouse 2B4 shares 46% and 68% aa sequence identity with human and rat 2B4, respectively. The ECD of mouse 2B4 shares 17-26% aa sequence identity with comparable regions of mouse BLAME, CD2F-10, CD84, CD229, CRACC, NTB-A, and SLAM. 2B4 is expressed on all NK cells, γδ T cells, monocytes, some CD4⁺ and CD8⁺ T cells, and dendritic cells (7). CD48 mediates 2B4⁺ cell interactions with nearly all hematopoietic cell types, including cells of the same type (8-10). 2B4/CD48 signaling cooperates with other receptor systems to either promote or inhibit NK and CD8⁺ T cell activation (7-13). The inhibitory activities are distinct from those of MHC I restricted inhibitory NK cell receptors (12, 13). Ligation of 2B4 with antibodies or CD48 constructs can directly trigger inhibitory signaling or disrupt an inhibitory interaction, leading to cellular activation (9, 12). 2B4 can also induce signaling through CD48 (10, 14). The inhibitory effect is associated with the long form of 2B4, while activation is associated with the short form (9, 15).

References:

- Bhat, R. *et al.* (2006) J. Leukocyte Biol. **79**:417.
- Veillette, A. (2006) Nat. Rev. Immunol. **6**:56.
- McNerney, M.E. *et al.* (2005) Mol. Immunol. **42**:489.
- Assarsson, E. *et al.* (2005) J. Immunol. **175**:2045.
- Mathew, P.A. *et al.* (1993) J. Immunol. **151**:5328.
- Stepp, S.E. *et al.* (1999) Eur. J. Immunol. **29**:2392.
- Nakajima, H. *et al.* (1999) Eur. J. Immunol. **29**:1676.
- Lee, K.M. *et al.* (2006) Blood **107**:3181.
- Mooney, J.M. *et al.* (2004) J. Immunol. **173**:3953.
- Assarsson, E. *et al.* (2004) J. Immunol. **173**:174.
- Bryceson, Y.T. *et al.* (2006) Blood **107**:159.
- Lee, K-M. *et al.* (2004) J. Exp. Med. **199**:1245.
- McNerney, M.E. *et al.* (2005) Blood **106**:1337.
- Messmer, B. *et al.* (2006) J. Immunol. **176**:4646.
- Schatzle, J.D. *et al.* (1999) Proc. Natl. Acad. Sci. **96**:3870.