Human TIGIT APC-conjugated Antibody

Monoclonal Mouse IgG_{2B} Clone # 741182

Catalog Number: FAB7898A

100 TESTS

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human TIGIT in ELISAs. In direct ELISAs, no cross-reactivity with recombinant mouse TIGIT is observed.
Source	Monoclonal Mouse IgG_{2B} Clone # 741182
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human TIGIT Met1-Pro141 Accession # Q495A1
Conjugate	Allophycocyanin Excitation Wavelength: 620-650 nm Emission Wavelength: 660-670 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.

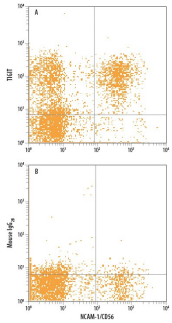
APPLICATIONS

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	10 µL/10^6 cells	See Below

DATA

Flow Cytometry



Detection of TIGIT in Human Blood Lymphocytes by Flow Cytometry. Human peripheral blood lymphocytes were stained with Mouse Anti-Human NCAM-1/CD56 PE-conjugated Monoclonal Antibody (Catalog # FAB2408P) and either (A) Mouse Anti-Human TIGIT APC-conjugated Monoclonal Antibody (Catalog # FAB7898A) or (B) Mouse IgG_{2B} Allophycocyanin Isotype Control (Catalog # IC0041A). View our protocol for Staining Membrane-associated Proteins.

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.** ● 12 months from date of receipt, 2 to 8 °C as supplied.

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BACKGROUND

TIGIT (T cell Immunoreceptor with Ig and ITIM domains), also called Vstm3 (V-set and transmembrane domain-containing 3), Vsig9 (V-set and Ig domain-containing 9) and WUCAM (Washington University Cell Adhesion Molecule) is a 30-34 kDa type I transmembrane protein that is a member of the CD28 family within the Ig superfamily of proteins (1-4). Human TIGIT cDNA encodes 244 amino acids (aa) including a 21 aa signal sequence, a 120 aa extracellular region with a V-type Ig-like domain and two potential N-glycosylation sites, a 21 aa transmembrane sequence, and an 82 aa cytoplasmic domain with an ITIM motif (5). A 170 aa variant diverges after aa 166 (5). Within the ECD, human TIGIT shares only 68-75% aa sequence identity with mouse, porcine, canine, equine and bovine TIGIT. TIGIT is expressed on NK cells and subsets of activated, memory and regulatory T cells, and particularly on follicular helper T cells within secondary lymphoid organs (1, 2, 6-8). It binds to CD155/PVR/Necl-5 and Nectin-2/CD112/PVRL2 that appear on dendritic cells (DC) and endothelium (1-3, 7). Binding of TIGIT by DC induces IL-10 release and inhibits IL-12 production (2). Ligation of TIGIT on T cells down−regulates TCR-mediated activation and subsequent proliferation, while NK cell TIGIT ligation blocks NK cell cytotoxicity (6-8). Through CD155 and Nectin-2, which also interact with DNAM-1/CD226 and CD96/Tactile, TIGIT is part of an interacting network of Ig superfamily members that may augment or oppose each other (3, 4, 6, 7). In particular, TIGIT binding to CD155 can antagonize the effects of DNAM-1 (6, 7). Soluble TIGIT is able to compete with DNAM-1 for CD155 binding and attenuates T cell responses, while mice lacking TIGIT show increased T cell responses and susceptibility to autoimmune challenges (2, 3, 8).

References:

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2. Yu, X. *et al.* (2009) Nat. Immunol. **10**:48.
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4. Xu, Z. *et al.* (2010) Cell. Mol. Immunol. **7**:11.
5. SwissProt Accession # Q495A1.
6. Seth, S. *et al.* (2009) Eur. J. Immunol. **39**:3160.
7. Stanietsky, N. *et al.* (2009) Proc. Natl. Acad. Sci. USA **106**:17858.
8. Joller, N. *et al.* (2011) J. Immunol. **83**:1338.