Human/Mouse TREM2 Biotinylated Antibody

Monoclonal Rat IgG_{2B} Clone # 237920
Catalog Number: FAB17291B
100 Tests

DESCRIPTION

Species Reactivity	Human/Mouse
Specificity	Detects human and mouse TREM2 in direct ELISAs. Stains TREM2 transfectants but not TREM1 transfectants in flow cytometry. In sandwich ELISAs, detects mouse TREM2 when paired with a mouse TREM2 detection antibody.
Source	Monoclonal Rat IgG_{2B} Clone # 237920
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse TREM2 extracellular domain Accession # Q99NH8
Conjugate	Biotin Excitation Wavelength: N/A nm Emission Wavelength: N/A nm
Formulation	Supplied as a 0.2 µm filtered solution in RDF1. 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.

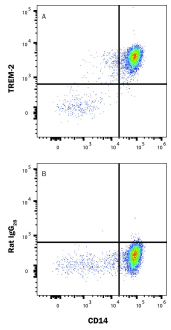
APPLICATIONS

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 µg/10^6 cells	PBMCs with CD14 costain and RAW 264.7 mouse monocyte/macrophage cell line

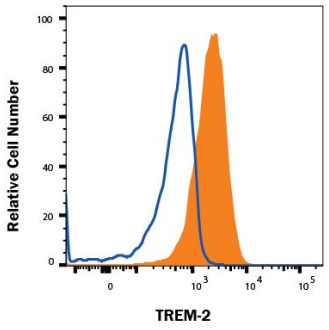
DATA

Flow Cytometry



Detection of TREM2 in PBMCs with CD14 costain cells by Flow Cytometry. PBMCs with CD14 costain were stained with Mouse Anti-Human CD14 PE-conjugated Monoclonal Antibody (Catalog # FAB3832P) and either (A) Rat Anti-Human/Mouse TREM2 Biotinylated Monoclonal Antibody (Catalog # FAB17291B) or (B) Rat IgG_{2B} Biotinylated Isotype Control (Catalog # IC013B) followed by Streptavidin-Allophycocyanin (Catalog # F0050). View our protocol for Staining Membrane-associated Proteins.

Flow Cytometry



Detection of TREM2 in RAW264 cells by Flow Cytometry. RAW264 cells were stained with Rat Anti-Human/Mouse TREM2 Biotinylated Monoclonal Antibody (Catalog # FAB17291B, filled histogram) or isotype control antibody (Catalog # IC013B, open histogram), followed by Streptavidin-Phycoerythrin (Catalog # F0040). 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	**Do not freeze.** • 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

TREM2 (Triggering Receptor Expressed on Myeloid cells-2) is a 35 kDa molecular weight type I transmembrane member of the TREM family and Ig superfamily . Mature human TREM2 consists of a 156 amino acid (aa) extracellular domain (ECD) with one V-type Ig-like domain, a 21 aa transmembrane (TM) domain, and a 35 aa cytoplasmic tail. Within the ECD, human TREM2 shares 73% and 74% aa sequence identity with mouse and rat TREM2, respectively. Two closely related transcripts were reported in mouse and designated TREM2a and TREM2b. Soluble forms of the TREM2 ECD are generated by alternative splicing or proteolytic cleavage, and the cytoplasmic domain can be liberated by gamma-Secretase mediated intramembrane cleavage. It is a pattern recognition receptor that binds anionic ligands. A positively charged lysine within the transmembrane segment allows association with the signal adapter protein, DAP12 to deliver an activating signal that plays a role in both innate and adaptive immune responses, including inhibition of macrophage activation. TREM2 is expressed on macrophages, immature myeloid dendritic cells, osteoclasts, microglia, and adipocytes. It promotes the differentiation and function of osteoclasts, the production of inflammatory cytokines by adipocytes, insulin resistance, and the phagocytic clearance of bacteria. In the CNS, TREM2 binds to ApoE, ApoA1, and ApoB and mediates the clearance of apoptotic neurons, amyloid plaques, and cell debris following demyelination. TREM2 also interacts with and modifies signaling through Plexin A1 on dendritic cells and osteoclasts. Mutations in TREM2 or DAP12 are associated with the development of Alzheimer's disease and Nasu-Hakola disease (NHD/PLOSL) which is characterized by presenile dementia and bone cysts. Soluble TREM2 is elevated in cerebrospinal fluid of patients with active multiple sclerosis (MS), and TREM2 blockade exacerbates disease symptoms in the experimental EAE model of MS.

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