

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse TREM2 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse (rm) TREM1, recombinant human TREM2, or rmTREM3 is observed.
Source	Monoclonal Rat IgG _{2B} Clone # 237916
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse TREM2 Leu19-Pro168 Accession # Q99NH8
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*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.

Western Blot Optimal dilution of this antibody should be experimentally determined.

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

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.

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.