

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse TREML1/TLT-1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human TREML1 is observed.
Source	Monoclonal Rat IgG _{2B} Clone # 268529
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse TREML1/TLT-1 Gly18-Cys178 Accession # NP_082039
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	1 µg/mL	Recombinant Mouse TREML1/TLT-1 (Catalog # 2424-TL) under non-reducing conditions only

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

Triggering receptor expressed on myeloid cells-like protein 1 (TREML1)/TREM-like transcript-1 (TLT-1) is a 40 kDa type I transmembrane receptor and member of the TREM family of proteins (1). Mouse TREML1/TLT-1 is synthesized as a 317 amino acid (aa) precursor that contains a 20 aa signal sequence, a 155 aa extracellular domain (ECD), a 21 aa transmembrane region, and a 121 aa cytoplasmic domain. The ECD contains an Ig-like V-type domain (aa 21-122), and the cytoplasmic region contains a proline-rich region (aa 245-275) and an immunoreceptor tyrosine-based inhibition motif (ITIM) characterized by the residues S/I/V/LXYxxV/L (1). A splicing variant produces a second isoform that has a six aa substitution for aa 173 in isoform 1. Mature mouse TREML1/TLT-1 shares 65% aa sequence identity with mature human TREML1/TLT-1. TREML1/TLT-1 is expressed exclusively in megakaryocytes and platelets where it colocalizes with CD62P in α-granules in resting platelets and on the cell surface of platelets activated by thrombin (1-3). The receptor's expression is up-regulated dramatically upon platelet activation (2). Antibodies to single-chain Fv fragments specific for TLT-1 inhibited thrombin-mediated human platelet aggregation suggesting its role in the regulation of aggregation (5). In addition, soluble fragments including the ECD can be released into serum by proteolysis (3). The phosphorylated TREML1/TLT-1 is able to interact with both SHP-1 and SHP-2 through ITIM (1, 4). SHP-2 interaction enhances FcεRI-mediated calcium signaling in rat basophilic leukemia cells (1). It is hypothesized that TREML1/TLT-1 plays a role in the innate and adaptive immune responses.

References:

1. Barrow, A.D. *et al.* (2004) *J. Immunol.* **172**:5838.
2. Washington, A.V. *et al.* (2004) *Blood* **104**:1042.
3. Gattis, J.L. *et al.* (2006) *J. Biol. Chem.* **281**:13396.
4. Washington, A.V. *et al.* (2002) *Blood* **100**:3822.
5. Giomarelli B. *et al.* (2007) *Thromb. Haemost.* **97**:955.