Mouse TREM2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF1729

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse TREM2 in direct ELISAs and Western blots.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse TREM2b Leu19-Pro168 Accession # Q99NH8
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.

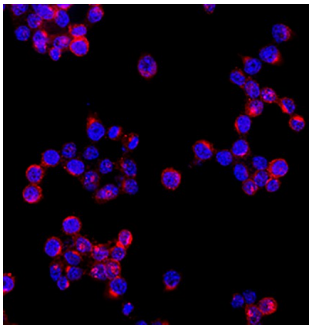
APPLICATIONS

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
Knockout Validated	1.7-15 µg/mL	Immersion fixed RAW 264.7 mouse monocyte/macrophage cell line
Western Blot	0.1 µg/mL	Recombinant Mouse TREM2b Fc Chimera (Catalog # 1729-T2)
Immunocytochemistry	1-15 µg/mL	See Below
ELISA	This antibody functions as an ELISA capture antibody when paired with Sheep Anti-Mouse TREM2 Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF1729). *This product is intended for assay development on various assay platforms requiring antibody pairs.*	

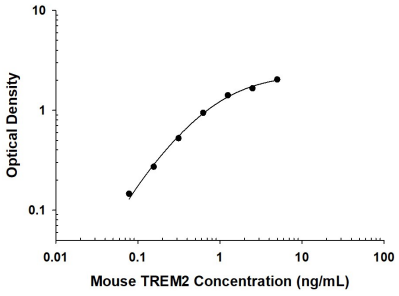
DATA

Immunocytochemistry



TREM2 in RAW 264.7 Mouse Cell Line. TREM2 was detected in immersion fixed RAW 264.7 mouse monocyte/macrophage cell line using Sheep Anti-Mouse TREM2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1729) at 1.7 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

ELISA



Mouse TREM2 ELISA Standard Curve. Recombinant Mouse TREM2 protein was serially diluted 2-fold and captured by Sheep Anti-Mouse TREM2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1729) coated on a Clear Polystyrene Microplate (Catalog # DY990). Sheep Anti-Mouse TREM2 Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF1729) was incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

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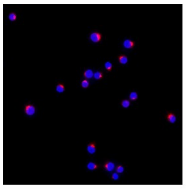
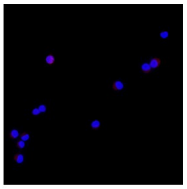
Mouse TREM2 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF1729

Knockout Validated



RAW 264.7



RAW 264.7 Trem2 KO

TREM2 Specificity is Shown by Immunocytochemistry in Knockout Cell Line. TREM2 was detected in immersion fixed RAW 264.7 mouse monocyte/macrophage cell line (left panel) but is not detected in TREM2 knockout (KO) RAW 264.7 Mouse Cell Line cell line (right panel) using Sheep Anti-Mouse TREM2 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1729) at 1.7 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Sheep IgG Secondary Antibody (red; Catalog # NL010) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

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.** • 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

TREM2 (Triggering Receptor Expressed by Myeloid cells) is an Ig superfamily cell surface receptor that activates a number of myeloid cell types (1). It is a member of a small gene family located on human chromosome 6p21 and mouse chromosome 17 in a region linked to the MHC (2). A single human TREM2 gene has been described, however, two closely related orthologs were reported in mouse (3). The proteins differ by only three amino acids and were designated TREM2a and TREM2b. TREM2 is type I transmembrane protein consisting of a single extracellular immunoglobulin (V-like) domain, a transmembrane domain with a positively charged lysine residue, and a short cytoplasmic tail (1). It associates with the signal adapter protein, DAP12, for signaling and function. DAP12 has a cytoplasmic ITAM that is phosphorylated upon ligand binding leading to the subsequent activation of cytoplasmic tyrosine kinases. TREM2 is expressed by immature monocyte-derived dendritic cells (DC), and expression is down-regulated upon activation of DC by microbial products and costimulatory signals (4). Ligation of TREM2 on immature DC with anti-TREM2 antibodies results in partial DC activation and the up-regulation of CCR7 and some co-stimulatory molecules. A role for TREM2 in the functioning of osteoclasts and microglia is suggested by the discovery that homozygous loss-of-function mutations in either TREM2 or DAP12 result in Nasu-Hakola disease characterized by a combination of presenile demetia and bone cysts (5). *In vitro* studies indicate that the differentiation of myeloid precursors into osteoclasts is dramatically impaired in TREM2 deficient individuals (6).

References:

1. Colonna, M. (2003) Nature Rev. Immunol. **3**:445.
2. Allcock, R. *et al.* (2003) Eur. J. Immunol. **33**:567.
3. Daws, M. *et al.* (2001) Eur. J. Immunol. **31**:783.
4. Bouchon, A. *et al.* (2001) J. Exp. Med. **194**:1111.
5. Paloneva, J. *et al.* (2002) Am. J. Hum. Genet. **71**:656.
6. Cella, M. *et al.* (2003) J. Exp. Med. **198**:645.

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