10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Goat Anti-TREM2 Antibody

Peptide-affinity purified goat antibody
Catalog # AF2109a

Specification

Goat Anti-TREM2 Antibody - Product Information

Application	**WB, IHC, E**
Primary Accession	Q9NZC2
Other Accession	NP_061838, 54209
Reactivity	**Human**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**25447**

Goat Anti-TREM2 Antibody - Additional Information

Gene ID 54209

Other Names
Triggering receptor expressed on myeloid cells 2, TREM-2, Triggering receptor expressed on monocytes 2, TREM2

Dilution
WB~~1:1000
IHC~~1:100~500
E~~N/A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-TREM2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-TREM2 Antibody - Protein Information

Name TREM2 (HGNC:17761)

Function
Forms a receptor signaling complex with TYROBP which mediates signaling and cell activation

following ligand binding (PubMed:10799849). Acts as a receptor for amyloid-beta protein 42, a cleavage product of the amyloid-beta precursor protein APP, and mediates its uptake and degradation by microglia (PubMed:27477018, PubMed:29518356). Binding to amyloid-beta 42 mediates microglial activation, proliferation, migration, apoptosis and expression of pro- inflammatory cytokines, such as IL6R and CCL3, and the anti- inflammatory cytokine ARG1 (By similarity). Acts as a receptor for lipoprotein particles such as LDL, VLDL, and HDL and for apolipoproteins such as APOA1, APOA2, APOB, APOE, APOE2, APOE3, APOE4, and CLU and enhances their uptake in microglia (PubMed:27477018). Binds phospholipids (preferably anionic lipids) such as phosphatidylserine, phosphatidylethanolamine, phosphatidylglycerol and sphingomyelin (PubMed:29794134). Regulates microglial proliferation by acting as an upstream regulator of the Wnt/beta-catenin signaling cascade (By similarity). Required for microglial phagocytosis of apoptotic neurons (PubMed:24990881). Also required for microglial activation and phagocytosis of myelin debris after neuronal injury and of neuronal synapses during synapse elimination in the developing brain (By similarity). Regulates microglial chemotaxis and process outgrowth, and also the microglial response to oxidative stress and lipopolysaccharide (By similarity). It suppresses PI3K and NF-kappa-B signaling in response to lipopolysaccharide; thus promoting phagocytosis, suppressing pro-inflammatory cytokine and nitric oxide production, inhibiting apoptosis and increasing expression of IL10 and TGFB (By similarity). During oxidative stress, it promotes anti-apoptotic NF- kappa-B signaling and ERK signaling (By similarity). Plays a role in microglial MTOR activation and metabolism (By similarity). Regulates age-related changes in microglial numbers (PubMed:29752066). Triggers activation of the immune responses in macrophages and dendritic cells (PubMed:10799849). Mediates cytokine-induced formation of multinucleated giant cells which are formed by the fusion of macrophages (By similarity). In dendritic cells, receptor of SEMA6D with PLEXNA1 as coreceptor and mediates up-regulation of chemokine receptor CCR7 and dendritic cell maturation and survival (PubMed:11602640). Involved in the positive regulation of osteoclast differentiation (PubMed:12925681).

Cellular Location
[Isoform 1]: Cell membrane; Single-pass type I membrane protein [Isoform 3]: Secreted.

Tissue Location
Expressed in the brain, specifically in microglia and in the fusiform gyrus (at protein level) (PubMed:27477018, PubMed:28802038, PubMed:28855300, PubMed:29752066). Expressed on macrophages and dendritic cells but not on granulocytes or monocytes (PubMed:10799849, PubMed:28855301). In the CNS strongest expression seen in the basal ganglia, corpus callosum, medulla oblongata and spinal cord (PubMed:12080485).

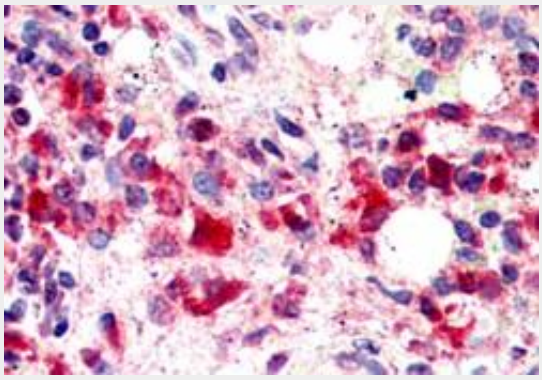
Goat Anti-TREM2 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

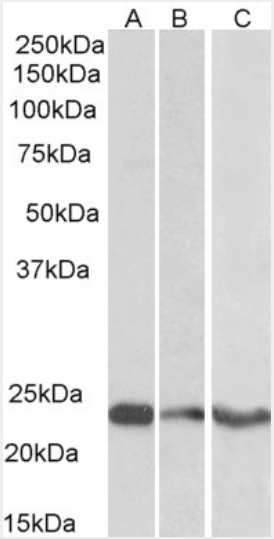
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence

- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-TREM2 Antibody - Images



AF2109a (2.5 µg/ml) staining of paraffin embedded Human Spleen. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.



Antibody (2.5µg/ml) staining of paraffin embedded Human Spleen. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

Goat Anti-TREM2 Antibody - Background

The protein encoded by this gene is a membrane protein that forms a receptor signaling complex with TYROBP. The encoded protein may be involved in chronic inflammation by triggering the production of constitutive inflammatory cytokines. Defects in this gene are a cause of polycystic lipomembranous osteodysplasia with sclerosing leukoencephalopathy (PLOSL).

Goat Anti-TREM2 Antibody - References

Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
DAP12 is required for macrophage recruitment to the lung in response to cigarette smoke and chemotaxis toward CCL2. Koth LL, et al. J Immunol, 2010 Jun 1. PMID 20421649.
Gene-centric association signals for lipids and apolipoproteins identified via the HumanCVD

BeadChip. Talmud PJ, et al. Am J Hum Genet, 2009 Nov. PMID 19913121.
The surface-exposed chaperone, Hsp60, is an agonist of the microglial TREM2 receptor. Stefano L, et al. J Neurochem, 2009 Jul. PMID 19457124.
TREM and TREM-like receptors in inflammation and disease. Ford JW, et al. Curr Opin Immunol, 2009 Feb. PMID 19230638.