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TREM2 Rabbit pAb

Catalog # AP99489

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9NZC2
Other Accession	Q9NZC2
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	25447
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human TREM2
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 Ig-like V-type (immunoglobulin-like) domain.
SUBUNIT	Interacts with TYROBP/DAP12.
DISEASE	Defects in TREM2 are a cause of polycystic lipomembranous osteodysplasia with sclerosing leukoencephalopathy (PLOSL) [MIM:221770]; also known as presenile dementia with bone cysts or Nasu-Hakola disease (NHD). PLOSL is a recessively inherited disease characterized by a combination of psychotic symptoms rapidly progressing to presenile dementia and bone cysts restricted to wrists and ankles. PLOSL has a global distribution, although most of the patients have been diagnosed in Finland and Japan, with an estimated population prevalence of 2x10(-6) in the Finns.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a membrane protein that forms a receptor signaling complex with the TYRO protein tyrosine kinase binding protein. The encoded protein functions in immune response and 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). Alternative splicing results in multiple transcript variants encoding different isoforms. [provided by RefSeq, Nov 2012]

Additional Information

Gene ID	54209
Other Names	AD17; PLOSL2; TREM-2; Trem2a; Trem2b; Trem2c; TREM2_HUMAN; TREM2; Triggering receptor expressed on monocytes 2; TREM2_MOUSE; triggering receptor expressed on myeloid cells 2; triggering receptor expressed on myeloid cells 2a
Dilution	WB=1:500-2000,IHC-P=1:50-200,IHC-F=1:50-200,IF=1:50-200

Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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).

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