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Mouse Trem2 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP19275a

Specification

Mouse Trem2 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q99NH8

Mouse Trem2 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 83433

Other Names
Triggering receptor expressed on myeloid cells 2, TREM-2, Triggering receptor expressed on monocytes 2, Trem2, Trem2a, Trem2b, Trem2c

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Trem2 Antibody (N-term) Blocking Peptide - Protein Information

Name Trem2

Synonyms Trem2a, Trem2b, Trem2c

Function
Forms a receptor signaling complex with TYROBP which mediates signaling and cell activation following ligand binding (PubMed:11241283). 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 (PubMed:27477018, PubMed:29518356). 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 (By similarity). Regulates microglial proliferation by acting as an upstream regulator of the Wnt/beta-catenin signaling cascade (PubMed:28077724). 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 (PubMed:15728241, PubMed:25631124, PubMed:28592261, PubMed:29752066). Regulates microglial chemotaxis and process outgrowth, and also the microglial response to oxidative stress and lipopolysaccharide (PubMed:28483841, PubMed:29663649, PubMed:29859094, PubMed:30232263). 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 (PubMed:29663649). During oxidative stress, it promotes anti-apoptotic NF-kappa-B signaling and ERK signaling (PubMed:28592261). Plays a role in microglial MTOR activation and metabolism (PubMed:28802038). Regulates age-related changes in microglial numbers (PubMed:25631124, PubMed:29752066, PubMed:30548312). Triggers activation of the immune responses in macrophages and dendritic cells. Mediates cytokine-induced formation of multinucleated giant cells which are formed by the fusion of macrophages (PubMed:18957693). 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:16715077). Involved in the positive regulation of osteoclast differentiation (PubMed:16418779).

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

Tissue Location
Expressed in the brain, specifically in microglia (at protein level) (PubMed:15728241, PubMed:27477018, PubMed:28077724, PubMed:28559417, PubMed:28592261, PubMed:28802038, PubMed:28855301, PubMed:29752066, PubMed:29794134). Expressed in macrophages (at protein level) (PubMed:11241283, PubMed:28559417, PubMed:28802038). Expressed at higher levels in the CNS, heart and lung than in lymph nodes or in other non-lymphoid tissues such as kidney, liver and testis (PubMed:12472885). In the CNS not all microglia express TREM2 (PubMed:12472885). Brain regions with an incomplete blood-brain barrier had the lowest percentages of TREM2 expressing microglia, whereas the lateral entorhinal and cingulate cortex had the highest percentages (PubMed:12472885).

Mouse Trem2 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

Mouse Trem2 Antibody (N-term) Blocking Peptide - Images

Mouse Trem2 Antibody (N-term) Blocking Peptide - Background

Trem2 may have a role in chronic inflammations and may stimulate production of constitutive rather than inflammatory chemokines and cytokines. Forms a receptor signaling complex with TYROBP and triggers activation of the immune responses in macrophages and dendritic cells.

Mouse Trem2 Antibody (N-term) Blocking Peptide - References

Koth, L.L., et al. J. Immunol. 184(11):6522-6528(2010)Whittaker, G.C., et al. J. Biol. Chem. 285(5):2976-2985(2010)Peng, Q., et al. Sci Signal 3 (122), RA38 (2010) :Chang, J.H., et al. Biochem. Biophys. Res. Commun. 389(1):28-33(2009)Hsieh, C.L., et al. J. Neurochem. 109(4):1144-1156(2009)