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Anti-TREM2 Reference Antibody (VHB937)

Catalog # APR11714

Product Information

Application	Functional assay, Kinetics (SPR), Kinetics (BLI), FACS, E, FTA
Primary Accession	Q9NZC2
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG1
Calculated MW	25447

Additional Information

Target/Specificity	TREM2
Expression system	CHO

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).

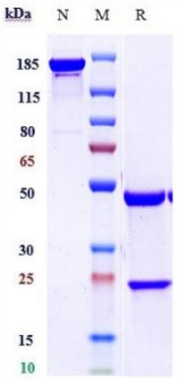
Cellular Location

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

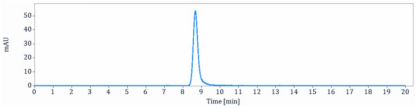
Tissue Location

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).

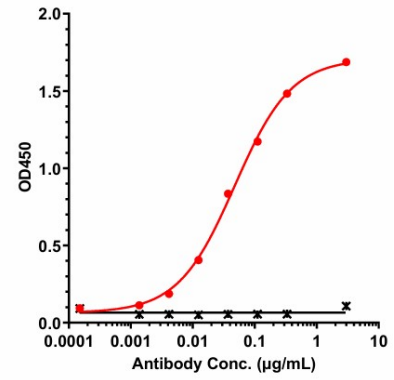
Images



Anti-TREM2 Reference Antibody (VHB937) on SDS-PAGE under reducing (R) condition. The purity of the protein is greater than 95%.



The purity of Anti-TREM2 Reference Antibody (VHB937) is 100%, determined by SEC-HPLC.



Immobilized huTREM2 ECD-hFc-Biotin at 2 ug/mL can bind VHB937, The EC50 is 0.04752 μg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.