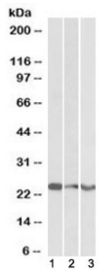
TREM2 Antibody / Triggering receptor expressed on myeloid cells 2 (R34192)

Catalog No.	Formulation	Size
R34192-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
Gene ID	54209
Localization	Cytoplasmic, membranous
Applications	Western Blot : 0.3-1ug/ml ELISA (peptide) LOD : 1:32000
Limitations	This TREM2 antibody is available for research use only.



Western blot testing of human 1) cerebellum, 2) frontal cortex and 3) hippocampus lysate with TREM2 antibody at 0.3ug/ml. Predicted molecular weight ~25 kDa.

Description

TREM2 antibody is a widely used reagent for exploring microglial function, innate immunity, and neurodegenerative disease. The encoded protein, triggering receptor expressed on myeloid cells 2 (TREM2), is a cell surface receptor primarily expressed on microglia in the central nervous system and on myeloid cells in peripheral tissues. It belongs to the immunoglobulin superfamily and signals through the adaptor protein DAP12 to regulate phagocytosis, survival, and inflammatory responses.

TREM2 is essential for microglial activation and clearance of cellular debris, lipids, and amyloid deposits. In the brain, TREM2 expression increases around plaques in Alzheimer disease, where it facilitates microglial clustering and limits plaque expansion. Mutations in TREM2 impair receptor function and are associated with increased risk of Alzheimer disease, frontotemporal dementia, and Nasu Hakola disease. These findings make TREM2 a major target of interest in neurodegenerative research.

Beyond the brain, TREM2 modulates macrophage and dendritic cell responses, contributing to tissue homeostasis and immune regulation. By promoting lipid uptake and phagocytosis, TREM2 helps regulate metabolic processes in macrophages. Dysregulation of TREM2 signaling has been linked to chronic inflammatory disorders, atherosclerosis, and obesity related inflammation.

At the molecular level, TREM2 contains an extracellular immunoglobulin-like domain for ligand recognition, a transmembrane region that interacts with DAP12, and a short cytoplasmic tail. Ligand binding triggers phosphorylation of DAP12 ITAM motifs, recruiting kinases such as SYK and initiating downstream signaling cascades. These pathways regulate cytoskeletal reorganization, cell survival, and cytokine release.

The TREM2 antibody is commonly used in immunohistochemistry, immunofluorescence, western blotting, and flow cytometry to assess protein expression and localization. These applications are critical for mapping microglial responses in Alzheimer disease, evaluating immune function in peripheral tissues, and studying the role of TREM2 in chronic inflammatory conditions. For researchers investigating neuroinflammation, innate immunity, or genetic risk factors for dementia, the TREM2 antibody provides a specific and dependable detection tool. NSJ Bioreagents supplies validated antibodies to ensure reproducibility and precision in advanced molecular studies.

Application Notes

Optimal dilution of the TREM2 antibody should be determined by the researcher.

Immunogen

Amino acids HGQKPGTHPPSELD were used as the immunogen for this TREM2 antibody.

Storage

Aliquot and store the TREM2 antibody at -20oC.