SANTA CRUZ BIOTECHNOLOGY, INC.

TREM-2 (B-3): sc-373828

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Polycystic lipomembranous osteodysplasia with sclerosing leukoencephalopathy (PLOSL), known as "Nasu-Hakola disease", is a recessively inherited disease where individuals display early-onset progressive dementia and bone cysts, which leads to death. Mutations in TYROBP (DAP12), which codes for a membrane receptor component in natural-killer and myeloid cells and mutations in triggering receptor expressed on myeloid cells-2 (TREM-2), correlate well to the pathology of PLOSL. TREM-2 is a cell surface receptor on human monocyte-derived dendritic cells that forms a receptor signaling complex with DAP12 and triggers activation of the immune response in macrophages and dendritic cells (DC). The TREM-2/DAP12 complex is a molecular promoter of upregulation of CC chemokine receptor 7, partial DC maturation, and DC survival through activation of protein tyrosine kinases and extracellular signal-regulated kinase. The human chronic inflammatory TREM-2 gene maps to chromosome 6p21.1 and encodes a 230 amino acid protein.

CHROMOSOMAL LOCATION

Genetic locus: TREM2 (human) mapping to 6p21.1.

SOURCE

TREM-2 (B-3) is a mouse monoclonal antibody raised against amino acids 1-160 mapping at the N-terminus of TREM-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TREM-2 (B-3) is available conjugated to agarose (sc-373828 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373828 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373828 PE), fluorescein (sc-373828 FITC), Alexa Fluor® 488 (sc-373828 AF488), Alexa Fluor® 546 (sc-373828 AF546), Alexa Fluor® 594 (sc-373828 AF594) or Alexa Fluor® 647 (sc-373828 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373828 AF680) or Alexa Fluor® 790 (sc-373828 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TREM-2 (B-3) is recommended for detection of TREM-2 isoforms 1-3 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TREM-2 siRNA (h): sc-43001, TREM-2 shRNA Plasmid (h): sc-43001-SH and TREM-2 shRNA (h) Lentiviral Particles: sc-43001-V.

Molecular Weight of glycosylated TREM-2: 40 kDa.

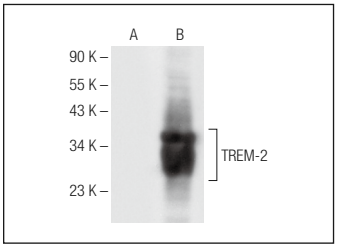
Molecular Weight of deglycosylated TREM-2: 26 kDa.

Positive Controls: TREM-2 (h): 293T Lysate: sc-114956 or human TREM-2 transfected HEK293T whole cell lysate.

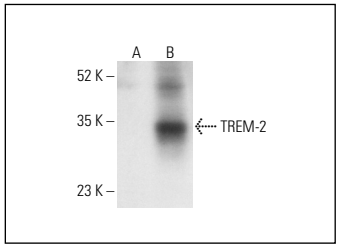
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



TREM-2 (B-3): sc-373828. Western blot analysis of TREM-2 expression in non transfected (**A**) and human TREM-2 transfected (**B**) HEK293T whole cell lysates.



TREM-2 (B-3): sc-373828. Western blot analysis of TREM-2 expression in non-transfected: sc-117752 (**A**) and human TREM-2 transfected: sc-114956 (**B**) 293T whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Zhao, Y., et al. 2013. Regulation of TREM-2 expression by an NFκB-sensitive miRNA-34a. Neuroreport 24: 318-323.
2. Bailey, C.C., et al. 2015. The triggering receptor expressed on myeloid cells 2 binds apolipoprotein E. J. Biol. Chem. 290: 26033-26042.
3. Bhattacharjee, S., et al. 2016. microRNA-34a-mediated down-regulation of the microglial-enriched triggering receptor and phagocytosis-sensor TREM-2 in age-related macular degeneration. PLoS ONE 11: e0150211.
4. Zhong, L., et al. 2017. Soluble TREM-2 induces inflammatory responses and enhances microglial survival. J. Exp. Med. 214: 597-607.
5. Suárez-Calvet, M., et al. 2018. CSF progranulin increases in the course of Alzheimer's disease and is associated with sTREM2, neurodegeneration and cognitive decline. EMBO Mol. Med. 10: e9712.
6. Bortolotti, D., et al. 2019. HHV-6A infection induces Amyloid-β expression and activation of microglial cells. Alzheimers Res. Ther. 11: 104.
7. Wilson, E.N., et al. 2020. Soluble TREM2 is elevated in Parkinson's disease subgroups with increased CSF Tau. Brain 143: 932-943.
8. Jin, M., et al. 2021. Tau activates microglia via the PQBP1-cGAS-STING pathway to promote brain inflammation. Nat. Commun. 12: 6565.
9. Reifschneider, A., et al. 2022. Loss of TREM2 rescues hyperactivation of microglia, but not lysosomal deficits and neurotoxicity in models of progranulin deficiency. EMBO J. 41: e109108.
10. Ballasch, I., et al. 2023. Ikzf1 as a novel regulator of microglial homeostasis in inflammation and neurodegeneration. Brain Behav. Immun. 109: 144-161.

RESEARCH USE

For research use only, not for use in diagnostic procedures.