SANTA CRUZ BIOTECHNOLOGY, INC.

CX3CR1 (B-7): sc-377227

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Chemokines are chemoattractant proteins that are divided into subfamilies based upon cysteine signature motifs termed C, CC, CXC and CX3C. Fractalkine, also designated CX3CL1, contains the CX3C motif and is widely expressed in brain and upregulated in endothelial cells in response to inflammatory signals, such as LPS, IL-1, TNF and CD40L. Fractalkine exists both as a membrane-bound form and as a chemotactic soluble form, and binds its cognate receptor, CX3CR1, with high affinity, to induce leukocyte adhesion and migration or chemotactic functions. CX3CR1, previously designated V28 and chemokine β receptor-like 1 (CMKBRL1), is expressed in neutrophils, monocytes, T lymphocytes and several organs including brain. CX3CR1 also functions with CD4 as a co-receptor for the HIV-1 virus envelope protein, and patients homozygous for a variant haplotype of CX3CR1 progress to AIDS more rapidly than those with other haplotypes. CX3CR1 may also be involved in the pathogenesis of atherosclerotic coronary artery disease (CAD) and is considered a potential drug target for therapeutic intervention of endothelium-related inflammatory diseases.

CHROMOSOMAL LOCATION

Genetic locus: CX3CR1 (human) mapping to 3p22.2.

SOURCE

CX3CR1 (B-7) is a mouse monoclonal antibody raised against amino acids 131-200 mapping within an internal region of CX3CR1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CX3CR1 (B-7) is available conjugated to agarose (sc-377227 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-377227 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377227 PE), fluorescein (sc-377227 FITC), Alexa Fluor® 488 (sc-377227 AF488), Alexa Fluor® 546 (sc-377227 AF546), Alexa Fluor® 594 (sc-377227 AF594) or Alexa Fluor® 647 (sc-377227 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377227 AF680) or Alexa Fluor® 790 (sc-377227 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

CX3CR1 (B-7) is recommended for detection of CX3CR1 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 CX3CR1 siRNA (h): sc-39904, CX3CR1 shRNA Plasmid (h): sc-39904-SH and CX3CR1 shRNA (h) Lentiviral Particles: sc-39904-V.

Molecular Weight (predicted) of CX3CR1 isoforms 1/2/3: 40/44/41 kDa.

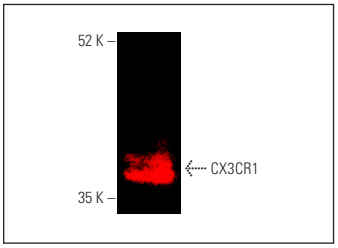
Molecular Weight (observed) of CX3CR1: 40-50 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, HeLa whole cell lysate: sc-2200 or HL-60 + LPS cell lysate: sc-24704.

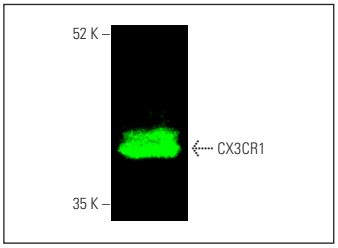
STORAGE

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

DATA



CX3CR1 (B-7): sc-377227. Near-Infrared western blot analysis of CX3CR1 expression in THP-1 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 790: sc-542740.



CX3CR1 (B-7): sc-377227. Near-Infrared western blot analysis of CX3CR1 expression in THP-1 whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_{2a} BP-CFL 680: sc-542739.

SELECT PRODUCT CITATIONS

1. Murai, N., et al. 2020. Functional analysis of CX3CR1 in human induced pluripotent stem (iPS) cell-derived microglia-like cells. Eur. J. Neurosci. 52: 3667-3678.
2. Lin, X., et al. 2021. Upregulation of neuronal cylindromatosis expression is essential for electroacupuncture-mediated alleviation of neuroinflammatory Injury by regulating microglial polarization in rats subjected to focal cerebral ischemia/reperfusion. J. Inflamm. Res. 14: 2061-2078.
3. Cao, P., et al. 2021. Early-life inflammation promotes depressive symptoms in adolescence via microglial engulfment of dendritic spines. Neuron 109: 2573-2589.e9.
4. Kang, J.Y., et al. 2022. Succinum extracts inhibit microglial-derived neuroinflammation and depressive-like behaviors. Front. Pharmacol. 13: 991243.
5. Xu, F., et al. 2023. Prolonged anesthesia induces neuroinflammation and complement-mediated microglial synaptic elimination involved in neurocognitive dysfunction and anxiety-like behaviors. BMC Med. 21: 7.
6. Pearson, A., et al. 2023. Deletion of PTEN in microglia ameliorates chronic neuroinflammation following repetitive mTBI. Mol. Cell. Neurosci. 125: 103855.
7. Drummond, I.S.A., et al. 2024. Evaluation of the therapeutic potential of amantadine in a vincristine-induced peripheral neuropathy model in rats. Animals 14: 1941.
8. Duarte-Campos, J.F., et al. 2024. Changes in neuroinflammatory markers and microglial density in the hippocampus and prefrontal cortex of the C58/J mouse model of autism. Eur. J. Neurosci. 59: 154-173.

RESEARCH USE

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