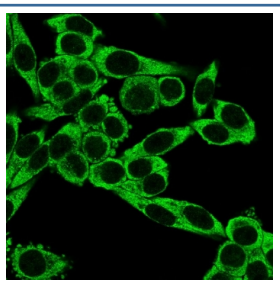
CCR5 Antibody / CD195 [clone 12D1] (V2462)

Catalog No.	Formulation	Size
V2462-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V2462-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V2462SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

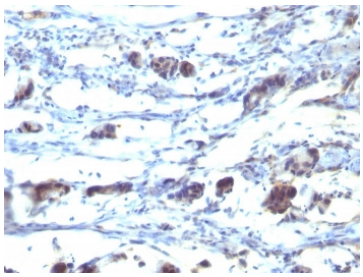
Citations (8)

Bulk quote request

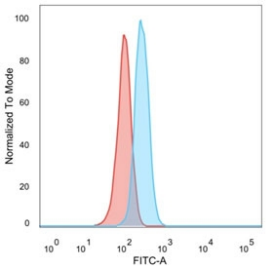
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	12D1
Purity	Protein G affinity chromatography
UniProt	P51681
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT Flow Cytometry : 1-2ug/million cells Immunofluorescence : 1-2ug/ml
Limitations	This CCR5 antibody is available for research use only.



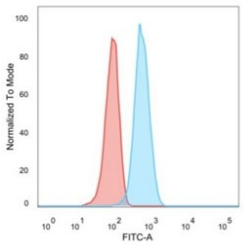
Immunofluorescent staining of PFA-fixed human HeLa cells with CCR5 antibody (clone 12D1).



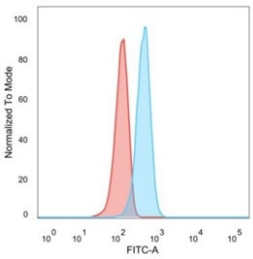
IHC staining of FFPE human stomach with CCR5 antibody (clone 12D1). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



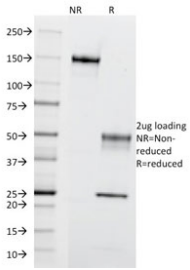
Flow cytometry testing of PFA-fixed human HeLa cells with CCR5 antibody (clone 12D1); Red=isotype control, Blue= CCR5 antibody.



Flow cytometry testing of human MCF7 cells with CCR5 antibody (clone 12D1); Red=isotype control, Blue= CCR5 antibody.



Flow cytometry testing of human U-87 MG cells with CCR5 antibody (clone 12D1); Red=isotype control, Blue= CCR5 antibody.



SDS-PAGE analysis of purified, BSA-free CCR5 antibody (clone 12D1) as confirmation of integrity and purity.

Description

CCR5 antibody (clone 12D1) detects C-C chemokine receptor type 5, also known as CD195, a seven-transmembrane G protein-coupled receptor that mediates immune cell migration and activation in response to chemokines such as CCL3 (MIP-1 alpha), CCL4 (MIP-1 beta), and CCL5 (RANTES). The UniProt recommended name is C-C chemokine receptor type 5 (CCR5). This receptor is predominantly expressed on T cells, macrophages, dendritic cells, and microglia, where it regulates leukocyte trafficking during immune surveillance and inflammatory responses.

Functionally, CCR5 antibody (clone 12D1) recognizes the full-length CCR5 protein, which has an approximate molecular weight of 40 kDa and resides in the plasma membrane. CCR5 acts as a co-receptor for several chemokines and also

serves as a key viral entry point for macrophage-tropic strains of HIV-1. The receptor's extracellular N-terminus and second extracellular loop are critical for ligand binding and for interaction with the HIV-1 gp120 envelope glycoprotein. Genetic variation in CCR5, such as the well-known 32-base pair deletion (CCR5-delta32), leads to altered surface expression and resistance to HIV infection.

Clone 12D1 is a monoclonal antibody that has been utilized in multiple published studies investigating CCR5 expression, receptor internalization, and immune cell signaling. Research applications using this clone include flow cytometric analysis of leukocyte subsets, immunohistochemical detection in lymphoid tissue, and receptor occupancy or downregulation assays. The clone has also been referenced in studies exploring the molecular mechanisms of HIV entry inhibition and chemokine-mediated receptor desensitization, supporting its specificity and functional reliability across diverse assay formats.

The CCR5 (CD195) protein plays a critical role in inflammatory and immune pathways including Th1 and Th17 cell trafficking, antiviral defense, and autoimmune regulation. CCR5 signaling activates downstream pathways involving G proteins, phospholipase C, and MAP kinases, influencing calcium flux and cytokine production. In addition to its physiological roles, CCR5 has been extensively studied as a therapeutic target in immunology, infectious disease, and oncology. Pharmacological blockade or genetic disruption of CCR5 has been shown to limit HIV-1 infection, reduce inflammatory damage in autoimmune disease, and alter tumor microenvironmental signaling.

CCR5 antibody (clone 12D1) provides specific and high-affinity recognition of CCR5 in human samples and is valuable for studies of receptor expression, immune regulation, and viral co-receptor biology. The antibodyâ€™s proven use in research publications supports its performance in flow cytometry, immunohistochemistry, and cell-based receptor analysis. NSJ Bioreagents offers CCR5 antibody (clone 12D1) validated for use in relevant research applications supporting studies of chemokine receptor signaling and host-pathogen interactions.

Application Notes

Optimal dilution of the CCR5 antibody should be determined by the researcher.

1. The prediluted format is supplied in a dropper bottle and is optimized for use in IHC. After epitope retrieval step (if required), drip mAb solution onto the tissue section and incubate at RT for 30 min.

Immunogen

Human native protein was used as the immunogen for the CCR5 antibody. The antibody binds to the N-terminal extracellular domain of CCR5/CD195.

Storage

Store the CCR5 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).