

Product Datasheet

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Anti-Human CXCR4 (Clone 12G5)

Purified Monoclonal Antibody

Product Information

Product No.: C861
Clone: 12G5
Isotype: Mouse IgG2a k
Storage: 2-8°C

Product Description

Specificity:

12G5 activity is directed against human CXCR4 (CD184; Fusin).

Antigen Distribution:

CXCR4 is expressed in various organs including ovary, bone marrow, kidney, lung, small intestine, spleen, lymph nodes, brain, stomach, liver, thymus, heart, and pancreas as well as on the surface of endothelial mature and precursor cells and pericytes.

Background:

CXCR4 is a G-protein coupled receptor that binds the chemokine CXCL12¹. Chemokines are small 8-12 kDa proteins that mediate cell migration and arrest, homing and trafficking of leukocytes in bone marrow and lymphoid organs, tissue formation, cytoskeletal rearrangement, and immune cell recruitment to inflammation. Additionally, chemokines are expressed by cancer cells, where they enhance tumor angiogenesis and development. CXCR4 is the chemokine receptor most abundantly expressed² and most frequently detected³ in various cancer types, being present in malignant cell subpopulations in primary tumors as well as sites of metastasis. CXCR4 is involved in tumor cell proliferation and migration² and is involved in leukocyte chemotaxis in several autoimmune diseases¹. CXCR4 also acts as an alternative receptor for some isolates of HIV-2 in the absence of CD4⁴. CXCR4 expression is regulated by HIF-1 α , IL-5, IFN- γ , TGF- β , and IL-17A¹.

12G5 was produced by immunizing Balb/c mice with CP-MAC-infected Sup-T1 cells⁴. Hybridomas were generated and screened for the ability to inhibit CP-MAC-induced syncytium induction on Sup-T1 cells.

12G5 binds specifically to both human and nonhuman cells that express recombinant CXCR4⁴. 12G5 inhibits CD4-independent infection by some HIV-2 isolates, and preincubating cells with 12G5 abolishes syncytium formation. HIV-2/vcp-infected cells display a marked and selective reduction in 12G5 binding. 12G5 also inhibits induction of cell-to-cell fusion of CXCR4⁺ RD/CD4 cells by HIV-1 and HIV-2 strains⁵.

Known Reactivity Species:

Human

Format:

Purified

Immunogen:

CP-MAC-infected Sup-T1 cells

Formulation

This purified antibody is formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.4, 1% BSA and 0.09% sodium azide as a preservative.

Storage and Stability

This purified antibody is stable when stored at 2-8°C. **Do not freeze.**

Product Preparation

Functional grade preclinical antibodies are manufactured in an animal free facility using only *in vitro* protein free cell culture techniques and are purified by a multi-step process including the use of protein A or G to assure extremely low levels of endotoxins, leachable protein A or aggregates.

Products are for research use only. Not for use in diagnostic or therapeutic procedures.

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Country of Origin

USA

References

1. Mousavi A. Immunol Lett. 217:91-115. 2020.
2. Barbieri F, Bajetto A, Thellung S, et al. Expert Opin Drug Discov. 11(11):1093-1109. 2016.



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