

Anti-Human CXCR4 (Fusin), clone 12G5 Purified Monoclonal Antibody

Catalog No:	CMC200
Size:	500 µg
Clone Number:	12G5
Isotype:	Mouse IgG2a
Concentration:	1.0 mg/mL
Formulation:	Purified unconjugated immunoglobulin in phosphate buffered saline, pH 7.3. Endotoxin level is less than 0.01 ng/µg of protein.
Sterile:	Filtered (0.22 micron)
Purification:	Protein A/G affinity chromatography.
Immunogen:	SIV-infected SupT1 cells injected into Balb/c mice.
Specificity:	The 12G5 mAb reacts with the chemokine receptor CXCR4, previously called Fusin or LESTER. CXCR4 is a seven transmembrane domain receptor, which is involved in the signaling of the chemokine, Stromal cell-derived factor-1 (SDF-1). SDF-1 is an efficacious chemoattractant for lymphocytes and monocytes but is inactive on neutrophils. CXCR4 expression on T cells and on macrophages and its absence on neutrophilic and eosinophilic granulocytes mirrors the chemotactic activity of SDF-1 for leukocyte subsets. The CXCR4 receptor was shown to serve as a cofactor for HIV-1 isolates that are tropic for T cell lines. The 12G5 mAb has been shown to block infection by certain isolates of HIV-1 and HIV-2. The 12G5 mAb is specific for CXCR4 and does not react with IL8R-A, CCR1, CCR2b, CCR3, CCR4, and CCR5. CXCR4 is upregulated in response to activation of PBMCs for 3-5 days with PHA.
Cross-Reactivity:	This antibody cross-reacts with cynomolgus monkey (Yoshino et al., 2000).
Applications:	For use in flow cytometry and immunohistochemical analyses of the CXCR4 receptor in human cell lines and tissues. Fixation with methanol and/or acetone was shown to destroy the epitope of the 12G5 mAb. 12G5 can be used to block SDF-1-induced chemotaxis and increases of intracellular calcium. The optimal antibody concentration should be determined for each specific application.
Storage:	Store at 4°C for up to one month. For long term use, store in aliquots below -20°C. Avoid repeated freeze/thaw cycles.



References:

- 1) Endres, M.J., Clapham, P.R., Marsh, M., Ahuja, M., Davis Turner, J., McKnight, A., Thomas, J.F., Stoebenau-Haggarty, B., Choe, S., Vance, P.J., Wells, T.N.C., Power, C.A., Sutterwala, S.S., Doms, R.W., Landau, N.R., and Hoxie, J.A. (1996) CD4-independent infection of HIV-2 is mediated by Fusin/CXCR4. *Cell* 87:745-756.
- 2) Bleul, C.C., Wu, L., Hoxie, J.A., Springer, T.A., and Mackay, C.R. (1997) The HIV coreceptors CXCR4 and CCR5 are differentially expressed and regulated on human T lymphocytes. *Proc. Nat'l. Acad. Sci. USA* 94:1925-1930.
- 3) Taylor, J.R., Kimbrell, K.C., Scoggins, R., Delany, M., Wu, L. and Camerini, D. (2001) Expression and function of chemokine receptors on human thymocytes: Implications for infection by Human Immunodeficiency Virus Type I. *J. Virol. Sept.:*8752-8760.
- 4) Yoshino, N., Ami, Y., Terao, K., Tashiro, F. and Honda, M. (2000) Upgrading of flow cytometric analysis for absolute counts, cytokines and other antigenic molecules of cynomolgus monkeys (*Macaca fascicularis*) by using anti-human cross-reactive antibodies. *Exp. Anim.* 49(2):97-110.

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