Leinco Technologies, Inc.
excellence in early discovery research™

Anti-Human CXCR4 (Clone 12G5)
Purified *in vivo* GOLD™ Functional Grade
Monoclonal Antibody

Product Information
Product No.: C850
Clone: 12G5
Isotype: Mouse IgG2a k
Storage: 2-8°Croduct Description

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 CXCL12[1]. 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 expressed[2] and most frequently detected[3] 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 migration[2] and is involved in leukocyte chemotaxis in several autoimmune diseases[1]. CXCR4 also acts as an alternative receptor for some isolates of HIV-2 in the absence of CD4[4]. CXCR4 expression is regulated by HIF-1α, IL-5, IFN-γ, TGF-β, and IL-17A[1].
12G5 was produced by immunizing Balb/c mice with CP-MAC-infected Sup-T1 cells[4]. 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 CXCR4[4]. 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 strains[5].
Known Reactivity Species:
Human
Format:
in vivo GOLD™, Purified in vivo Functional Grade
Formulation
This monoclonal antibody is aseptically packaged and formulated in 0.01 M phosphate buffered saline (150 mM NaCl) PBS pH 7.2 - 7.4 with no carrier protein, potassium, calcium or preservatives added. Due to inherent biochemical properties of antibodies, certain products may be prone to precipitation over time. Precipitation may be removed by aseptic centrifugation and/or filtration.
Purity
≥95% monomer by analytical SEC, >95% by SDS Page
Endotoxin
< 1.0 EU/mg as determined by the LAL method

410 Axminister Dr, St. Louis, MO 63026 (800) 538-1145 leincoglobal@leinco.com

Storage and Stability

Functional grade preclinical antibodies may be stored sterile as received at 2-8°C for up to one month. For longer term storage, aseptically aliquot in working volumes without diluting and store at ≤ -70°C. **Avoid Repeated Freeze Thaw Cycles.**

Product Preparation

Functional grade preclinical antibodies are manufactured in an animal free facility using *in vitro* 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.

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.
3. Bajetto A, Barbieri F, Dorcaratto A, et al. Neurochem Int. 49(5):423-432. 2006.