Species Reactivity: Mouse
Specificity: Detects mouse CXCR4 transfectants. Does not stain irrelevant transfectants.
Source: Monoclonal Rat IgG2B Clone # 247506
Purification: Protein A or G purified from hybridoma culture supernatant
Immunogen: Y3 rat myeloid cell line transfected with mouse CXCR4 Met1-Ser359 Accession # P70658
Endotoxin Level: <0.10 EU per 1 µg of the antibody by the LAL method.
Formulation: Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

Recommended Concentration

Flow Cytometry
0.25 µg/10⁶ cells
See Below

Immunocytochemistry
8-25 µg/mL
See Below

Immunohistochemistry
8-25 µg/mL
See Below

CyTOF-ready
Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.

Neutralization
Measured by its ability to neutralize CXCL12/SDF-1α-induced chemotaxis in the BaF3 mouse pro-B cell line transfected with mouse CXCR4. The Neutralization Dose (ND₅₀) is typically 8-40 µg/mL in the presence of 10 ng/mL Recombinant Mouse CXCL12/SDF-1α.

DATA

Flow Cytometry
Detection of CXCR4 in Mouse Thymocytes by Flow Cytometry. Mouse thymocytes were stained with (A) Rat Anti-Mouse CXCR4 Monoclonal Antibody (Catalog # MAB21651) or (B) Rat IgG2B isotype control antibody (Catalog # MAB0061) followed by anti-Rat IgG PE-conjugated Secondary Antibody (Catalog # F0105B) and Rat anti-Mouse CD8 alpha APC-conjugated Monoclonal Antibody (Catalog # FAB116A). View our protocol for Staining Membrane-associated Proteins.

Immunocytochemistry
CXCR4 in Mouse Neural Progenitor Cells. CXCR4 was detected in immersion fixed mouse neural progenitor cells using 10 µg/mL Rat Anti-Mouse CXCR4 Monoclonal Antibody (Catalog # MAB21651) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody (red; Catalog # NL013) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

Immunocytochemistry
CXCR4 in Mouse Splenocytes. CXCR4 was detected in immersion fixed mouse splenocytes using 10 µg/mL Rat Anti-Mouse CXCR4 Monoclonal Antibody (Catalog # MAB21651) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody (red; Catalog # NL013) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Non-adherent Cells.

Immunohistochemistry
CXCR4 in Mouse Spleen. CXCR4 was detected in immersion fixed frozen sections of mouse spleen using Rat Anti-Mouse CXCR4 Monoclonal Antibody (Catalog # MAB21651) at 15 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Rat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS017) and counterstained with hematoxylin (blue). Lower panel shows a lack of labeling if primary antibodies are omitted and tissue is stained only with secondary antibody followed by incubation with detection reagents. View our protocol for Chromogenic IHC Staining of Frozen Tissue Sections.
**Neutralization**

**Chemotaxis Induced by CXCL12/SDF-1α and Neutralization by Mouse CXCR4 Antibody.** Recombinant Mouse CXCL12/SDF-1α (Catalog # 460-SD) chemotacts the BaF3 mouse pro-B cell line transfected with mouse CXCR4 in a dose-dependent manner (orange line). The amount of cells that migrated through to the lower chemotaxis chamber was measured by Resazurin (Catalog # AR002). Chemotaxis elicited by Recombinant Mouse CXCL12/SDF-1α (10 ng/mL) is neutralized (green line) by increasing concentrations of Rat Anti-Mouse CXCR4 Monoclonal Antibody (Catalog # MAB21651). The ND₅₀ is typically 8-40 µg/mL.

---

**PREPARATION AND STORAGE**

**Reconstitution**

Reconstitute at 0.5 mg/mL in sterile PBS.

**Shipping**

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C.

**Stability & Storage**

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 6 months, -20 to -70 °C under sterile conditions after reconstitution.

---

**BACKGROUND**

CXCR4 is a G-protein-linked seven transmembrane spanning receptor that binds stromal cell-derived factor-1 (SDF-1). CXCR4 acts as a co-factor for T-cell tropic HIV-1 and-2 viral entry into cells.