

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CXCR4 transfectants. Does not stain irrelevant transfectants.
Source	Monoclonal Rat IgG _{2B} 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. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

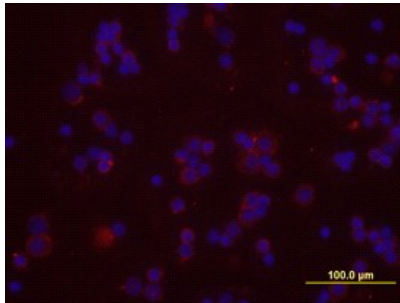
APPLICATIONS

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	Sample
Flow Cytometry	0.25 µg/10 ⁶ cells	Mouse thymocytes
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 (ND ₅₀) is typically 8–40 µg/mL in the presence of 10 ng/mL Recombinant Mouse CXCL12/SDF-1α.	

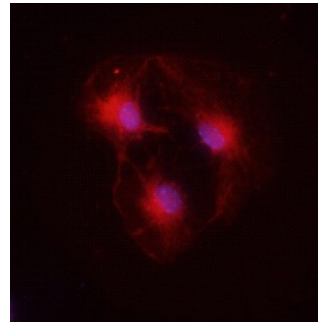
DATA

Immunocytochemistry



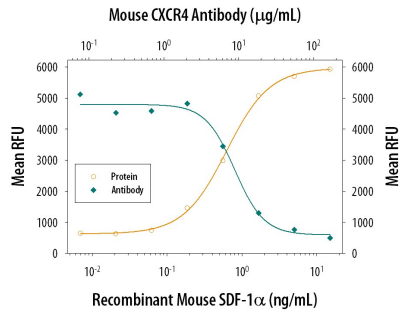
CXCR4 in Mouse Splenocytes. CXCR4 was detected in immersion fixed mouse splenocytes using 10 µg/mL Rat Anti-Mouse CXCR4 Monoclonal Antibody (Catalog # MAB21651) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody (red; Catalog #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

Immunocytochemistry



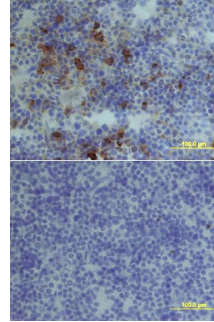
CXCR4 in Mouse Neural Progenitor Cells. CXCR4 was detected in immersion fixed mouse neural progenitor cells using 10 µg/mL Rat Anti-Mouse CXCR4 Monoclonal Antibody (Catalog # MAB21651) for 3 hours at room temperature. Cells were stained with the NorthernLights™ 557-conjugated Anti-Rat IgG Secondary Antibody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

Neutralization



Chemotaxis Induced by CXCL12/SDF-1α and Neutralization by Mouse CXCR4 Antibody. Recombinant Mouse CXCL12/SDF-1α (Catalog # 460-SD) chemo-attracts 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.

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](#).

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.