

ORDERING INFORMATION

Catalog Number: MAB4227

Clone: 358426

Lot Number: YRT02

Size: 100 µg

Formulation: 0.2 µm filtered solution in PBS with 5% trehalose

Storage: -20° C

Reconstitution: sterile PBS

Specificity: human CXCR7

Immunogen: Human CXCR7-transfected NS0 cells

Ig class: mouse IgG_{2a}

Recommended Applications:

Flow cytometry
Immunohistochemistry

Background

The G protein-coupled receptor, RDC1, belongs to a subgroup of chemokine receptors and has been designated CXCR7. CXCR7 can bind with high-affinity to CXCL12/SDF-1 and CXCL11/I-TAC. It is also a co-receptor for several HIV and SIV strains. In their N-termini and extracellular loops 1, 2, and 3, human and mouse CXCR7 share 84%, 100%, 96% and 86% amino acid sequence identity, respectively. Reports of mRNA levels and/or protein expression (as assessed using anti-CXCR7, clone 9C4) (J. Biol. Chem. 2005, **280**(42):35760, J. Immunol. 2006, **176**(4):2197) indicate that CXCR7 occurs on a wide variety of tissues and cells including monocytes, B cells, T cells and mature dendritic cells. In contrast, based on ligand binding analysis and receptor level (as assessed using anti-CXCR7, clone 11G8), surface expression of CXCR7 was reported to be restricted to tumor cells, activated endothelial cells, fetal liver cells, and few other cell types (J. Exp. Med. 2006, **203**(9):2201). The basis of these inconsistent observations is not known but may be attributed to cell context and the use of different antibodies that may recognize different epitopes.

Preparation

This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with NS0 cells transfected with human CXCR7 (hCXCR7; Accession # P25106). The IgG fraction of the tissue culture supernatant was purified by Protein G affinity chromatography.

Formulation

Lyophilized from a 0.2 µm filtered solution in phosphate-buffered saline (PBS) with 5% trehalose.

Reconstitution

Reconstitute with sterile PBS. If 0.2 mL of PBS is used, the antibody concentration will be 500 µg/mL.

Storage

Lyophilized samples are stable for twelve months from date of receipt when stored at -20° C to -70° C. Upon reconstitution, the antibody can be stored at 2° - 8° C for 1 month without detectable loss of activity. Reconstituted antibody can also be aliquotted and stored frozen at -20° C to -70° C in a manual defrost freezer for six months without detectable loss of activity. **Avoid repeated freeze-thaw cycles.**

Specificity

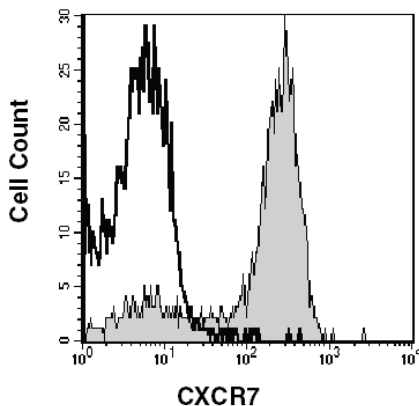
MAB4227 was selected for its ability to react specifically as detected by flow cytometry with five distinct human CXCR7 transfectants, but not their respective parental lines. It also reacts with monocytes expression of CXCR7. This antibody does not react with MCF-7 cells by flow cytometry, which have been reported to have surface-expressing CXCR7 using clone 11G8. Due to the conflicting reports published, use of monoclonal MAB4227 may result in an underestimation of CXCR7 expression on certain cell types. This antibody does not recognize mouse CXCR7 transfectants.

Applications

Flow cytometry - This antibody was validated for flow cytometry using human monocytes. Dilute this antibody to 25 µg/mL and add 10 µL of the diluted solution to 1 - 2.5 x 10⁵ cells in a total reaction volume not exceeding 200 µL. The binding of unlabeled monoclonal antibodies may be visualized by adding 10 µL of a 25 µg/mL stock solution of a secondary developing reagent such as goat anti-mouse IgG conjugated to a fluorochrome.

Immunohistochemistry - This antibody was used at a concentration of 8 - 25 µg/mL with appropriate secondary reagents to detect CXCR7 in paraffin-embedded sections of nude mice injected with human breast cancer cells. For chromogenic detection of labeling, the use of R&D Systems Cell and Tissue Staining Kits (CTS Series) is recommended.

Optimal dilutions should be determined by each laboratory for each application.



Human monocytes were stained with anti-CXCR7/RDC-1 (R&D Systems, Cat. # MAB4227, filled histogram) or isotype control (R&D Systems, Cat. # MAB003, open histogram) followed by APC-conjugated anti-mouse antibody (R&D Systems, Cat. # F0101B).