

Product datasheet

APC Anti-CXCR4 antibody [12G5] ab270635

2 Images

Overview

Product name	APC Anti-CXCR4 antibody [12G5]
Description	APC Mouse monoclonal [12G5] to CXCR4
Host species	Mouse
Conjugation	APC. Ex: 645nm, Em: 660nm
Tested applications	Suitable for: Flow Cyt
Species reactivity	Reacts with: Human, Non human primates
Immunogen	Tissue, cells or virus. CP-MAC-infected Sup-T1 cells Database link: P61073
Positive control	Flow: Peripheral whole blood cells, lymphocytes.
General notes	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As</p>

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Store In the Dark.
Storage buffer	pH: 7.4 Preservative: 0.1% Sodium azide Constituent: PBS
Purity	Size exclusion
Clonality	Monoclonal
Clone number	12G5
Isotype	IgG2a
Light chain type	kappa

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab270635 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		Use 10µl for 10 ⁶ cells.

Target

Function

Receptor for the C-X-C chemokine CXCL12/SDF-1 that transduces a signal by increasing intracellular calcium ions levels and enhancing MAPK1/MAPK3 activation. Acts as a receptor for extracellular ubiquitin; leading to enhance intracellular calcium ions and reduce cellular cAMP levels. Involved in haematopoiesis and in cardiac ventricular septum formation. Plays also an essential role in vascularization of the gastrointestinal tract, probably by regulating vascular branching and/or remodeling processes in endothelial cells. Could be involved in cerebellar development. In the CNS, could mediate hippocampal-neuron survival. Acts as a coreceptor (CD4 being the primary receptor) for HIV-1 X4 isolates and as a primary receptor for some HIV-2 isolates. Promotes Env-mediated fusion of the virus.

Tissue specificity

Expressed in numerous tissues, such as peripheral blood leukocytes, spleen, thymus, spinal cord, heart, placenta, lung, liver, skeletal muscle, kidney, pancreas, cerebellum, cerebral cortex and medulla (in microglia as well as in astrocytes), brain microvascular, coronary artery and umbilical cord endothelial cells. Isoform 1 is predominant in all tissues tested.

Involvement in disease

Defects in CXCR4 are a cause of WHIM syndrome (WHIM) [MIM:193670]; also known as warts, hypogammaglobulinemia, infections and myelokathexis. WHIM syndrome is an immunodeficiency disease characterized by neutropenia, hypogammaglobulinemia and extensive human papillomavirus (HPV) infection. Despite the peripheral neutropenia, bone marrow aspirates from affected individuals contain abundant mature myeloid cells, a condition termed myelokathexis.

Sequence similarities

Belongs to the G-protein coupled receptor 1 family.

Domain

The amino-terminus is critical for ligand binding. Residues in all four extracellular regions contribute to HIV-1 coreceptor activity.

Post-translational modifications

Phosphorylated on agonist stimulation. Rapidly phosphorylated on serine and threonine residues in the C-terminal. Phosphorylation at Ser-324 and Ser-325 leads to recruitment of ITCH, ubiquitination and protein degradation.

Ubiquitinated by ITCH at the cell membrane on agonist stimulation. The ubiquitin-dependent mechanism, endosomal sorting complex required for transport (ESCRT), then targets CXCR4 for lysosomal degradation. This process is dependent also on prior Ser-/Thr-phosphorylation in the C-terminal of CXCR4. Also binding of ARRB1 to STAM negatively regulates CXCR4 sorting to lysosomes though modulating ubiquitination of SFR5S.

Sulfation on Tyr-21 is required for efficient binding of CXCL12/SDF-1alpha and promotes its dimerization.

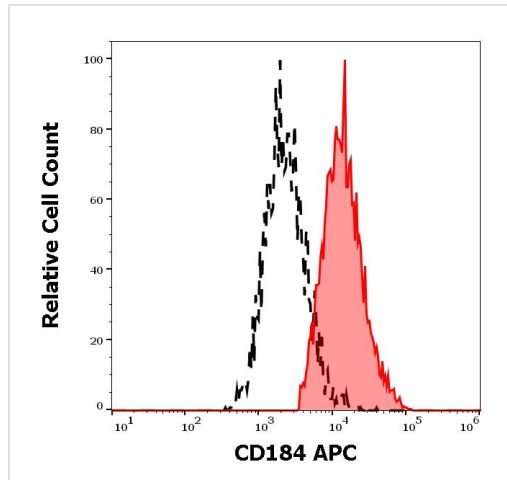
O- and N-glycosylated. Asn-11 is the principal site of N-glycosylation. There appears to be very little or no glycosylation on Asn-176. N-glycosylation masks coreceptor function in both X4 and R5 laboratory-adapted and primary HIV-1 strains through inhibiting interaction with their Env glycoproteins. The O-glycosylation chondroitin sulfate attachment does not affect interaction with CXCL12/SDF-1alpha nor its coreceptor activity.

Cellular localization

Cell membrane. In unstimulated cells, diffuse pattern on plasma membrane. On agonist

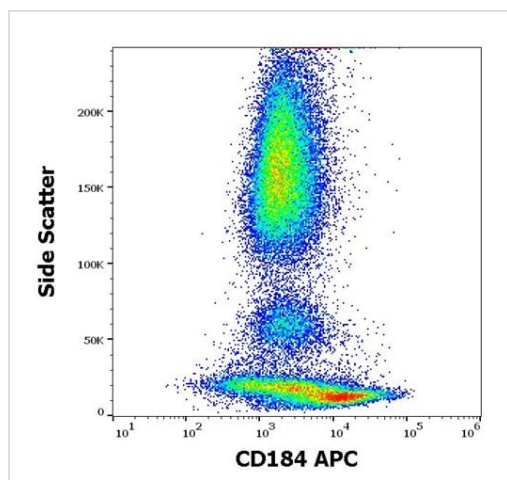
stimulation, colocalizes with ITCH at the plasma membrane where it becomes ubiquitinated.

Images



Flow cytometric analysis of lymphocytes (red) and monocytes (black) cells labeling CD184 using ab270635. Concentration of 10 μ l reagent/100 μ l peripheral whole blood.

Flow Cytometry - APC Anti-CXCR4 antibody [12G5]
(ab270635)



Flow cytometric analysis of human peripheral whole blood cells labeling CD184 using ab270635, with the concentration of 10 μ l reagent /100 μ l of peripheral whole blood.

Flow Cytometry - APC Anti-CXCR4 antibody [12G5]
(ab270635)

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