

## Product datasheet

# Anti-CXCR4 (phospho S339) antibody ab74012

★★★★★ [3 Abreviews](#) [23 References](#) [3 Images](#)

### Overview

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<b>Product name</b>	Anti-CXCR4 (phospho S339) antibody
<b>Description</b>	Rabbit polyclonal to CXCR4 (phospho S339)
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> ELISA, WB, IHC-P, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Human
<b>Immunogen</b>	Synthetic peptide corresponding to Human CXCR4 (phospho S339). <a href="#">Run BLAST with ExPASy</a> <a href="#">Run BLAST with NCBI</a>

### General notes

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.

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

### Properties

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<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
<b>Storage buffer</b>	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: 50% Glycerol, 0.87% Sodium chloride, PBS  Without Mg <sup>2+</sup> and Ca <sup>2+</sup>
<b>Purity</b>	Immunogen affinity purified
<b>Purification notes</b>	ab74012 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific phosphopeptide. The antibody against non-phosphopeptide was removed by chromatography using non-phosphopeptide corresponding to the phosphorylation site.
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab74012 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
ELISA		Use at an assay dependent concentration.
WB	★★★★★ (2)	1/500 - 1/1000. Detects a band of approximately 45 kDa (predicted molecular weight: 40 kDa).
IHC-P		1/50 - 1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF		1/500 - 1/1000.

## 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

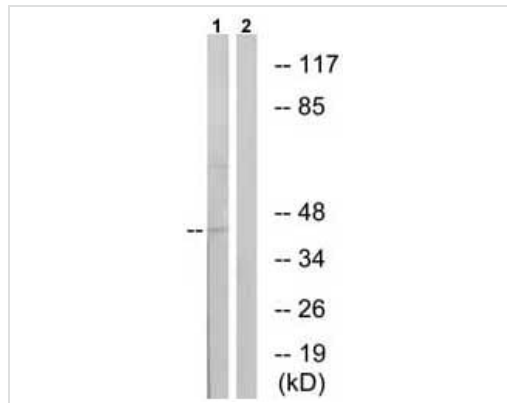
dimerization.

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



Western blot - Anti-CXCR4 (phospho S339) antibody (ab74012)

**All lanes :** Anti-CXCR4 (phospho S339) antibody (ab74012) at 1/500 dilution

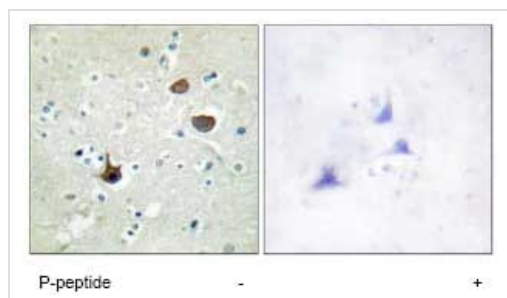
**Lane 1 :** Extracts from HUVEC cells treated with etoposide (25uM, 24hours)

**Lane 2 :** Extracts from HUVEC cells treated with etoposide (25uM, 24hours) with the immunising phosphopeptide at 5 µg

Lysates/proteins at 5 µg per lane.

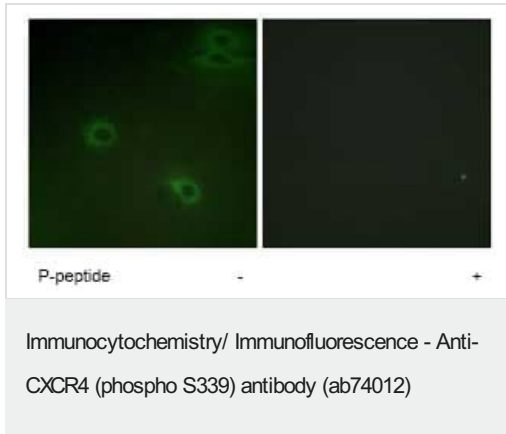
**Predicted band size:** 40 kDa

**Observed band size:** 45 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CXCR4 (phospho S339) antibody (ab74012)

Immunohistochemistry analysis of paraffin-embedded human brain carcinoma tissue using ab74012, at 1/50 dilution, in the presence (right panel) or absence (left panel) of the immunising phosphopeptide.



Immunofluorescence analysis of HeLa cells using ab74012, at 1/500 dilution, in the presence (right panel) or absence (left panel) of the immunising phosphopeptide.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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