abcam

ab208128

Alexa Fluor® 488 Anti-CXCR4/CD184 antibody [UMB2]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	UMB2
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	This product gave a positive signal in Jurkat cells fixed with 4% formaldehyde (10 min) and 80% methanol (5 min).

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Expected

Species	Human, Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Expected

Species	Human, Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information CXCR4/CD184

Function	Receptor for the C-X-C chemokine CXCL12/SDF-1 that transduces a signal by increasing intracellular calcium ion levels and enhancing MAPK1/MAPK3 activation (PubMed:10074102, PubMed:10452968, PubMed:10644702, PubMed:10825158, PubMed:18799424, PubMed:20048153, PubMed:20505072, PubMed:24912431, PubMed:28978524, PubMed:8752280, PubMed:8752281). Ligand binding causes a conformation change that triggers signaling via guanine nucleotide-binding proteins (G proteins) and modulates the activity of downstream effectors, such as adenylate cyclase (PubMed:16725153, PubMed:17197449, PubMed:18799424, PubMed:39093700). CXCR4 is coupled to G(i) G alpha proteins and mediates inhibition of adenylate cyclase (PubMed:17197449, PubMed:39093700). Involved in the AKT signaling cascade (PubMed:24912431). Plays a role in regulation of cell migration, e.g. during wound healing (PubMed:28978524). Also acts as a receptor for extracellular ubiquitin; leading to enhanced intracellular calcium ions and reduced cellular cAMP levels (PubMed:20228059). Binds bacterial lipopolysaccharide (LPS) et mediates LPS-induced inflammatory response, including TNF secretion by monocytes (PubMed:11276205). Involved in hematopoiesis and in cardiac ventricular septum formation (By similarity). Also plays an essential role in vascularization of the gastrointestinal tract, probably by regulating vascular branching and/or remodeling processes in endothelial cells (By similarity). Involved in cerebellar development; in the CNS, could mediate hippocampal-neuron surviva (By similarity). (Microbial infection) Acts as a coreceptor (CD4 being the primary receptor) for human immunodeficiency virus-1/HIV-1 X4 isolates and as a primary receptor for some HIV-2 isolates. Promotes Env-mediated fusion of the virus (PubMed:10074122, PubMed:10756055, PubMed:8849450, PubMed:8929542, PubMed:9427609).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle, Store in the dark

Notes

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CXCR4 also known as C-X-C chemokine receptor type 4 is a G protein-coupled receptor that is involved in signal transduction. It has a molecular weight of approximately 41 kDa. CXCR4 is ubiquitously expressed across various tissues including immune cells like T and B lymphocytes as well as in bone marrow brain and heart. It binds specifically with the ligand CXCL12 also known as stromal cell-derived factor 1 (SDF-1) facilitating responses such as cell migration and proliferation.
Biological function summary	CXCR4 plays an important role in the immune system hematopoiesis and angiogenesis. It does not function alone and is often part of a larger protein complex where it recruits and activates other G proteins. The receptor mediates chemotactic responses directing cells to sites of inflammation or injury. Its interaction with CXCL12 is critical for maintaining immune surveillance aiding in the movement and positioning of immune cells.
Pathways	CXCR4 integrates into significant cellular signaling pathways such as the PI3K/AKT pathway and the MAPK pathway. It collaborates closely with signaling proteins like AKT1 and MAPK1 impacting cell survival and growth. These pathways are essential for various cellular functions including cell cycle progression and apoptosis regulation. The cross-talk between CXCR4 and these pathways underlines its influence on cell fate decisions.
Associated diseases and disorders	CXCR4 is implicated in cancer metastasis and HIV entry into cells. Overexpression of CXCR4 is observed in several cancers contributing to tumor growth and metastasis. The interaction between CXCR4 and CXCL12 facilitates the infiltration and spread of cancer cells. Additionally in HIV CXCR4 serves as a coreceptor along with CD4 allowing the virus to enter and infect host cells. Both cancer and HIV illustrate CXCR4's central role in disease progression and pathogenesis.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

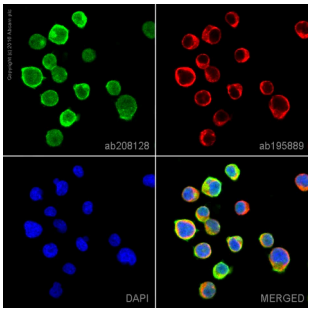
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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1 product image



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-CXCR4/CD184 antibody [UMB2] (ab208128)

CXCR4/CD184 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CXCR4/CD184 antibody

ab208128 staining CXCR4 in Jurkat cells. The cells were fixed with 4% formaldehyde (10 min) and then incubated in 1%BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated overnight at +4°C with ab208128 at 1/100 dilution (shown in green) and ab195889, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 594), at 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

This product also gave a positive signal under the same testing conditions in Jurkat cells fixed with 80% methanol (5 min).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.