abcam

ab305208

Alexa Fluor® 647 Anti-CX3CR1 antibody [EPR22354-15]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
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	EPR22354-15
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

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

Target data

See full target information CX3CR1

Function

Receptor for the C-X3-C chemokine fractalkine (CX3CL1) present on many early leukocyte cells; CX3CR1-CX3CL1 signaling exerts distinct functions in different tissue compartments, such as immune response, inflammation, cell adhesion and chemotaxis (PubMed:12055230, PubMed:23125415, PubMed:9390561, PubMed:9782118). CX3CR1-CX3CL1 signaling mediates cell migratory functions (By similarity). Responsible for the recruitment of natural killer (NK) cells to inflamed tissues (By similarity). Acts as a regulator of inflammation process leading to atherogenesis by mediating macrophage and monocyte recruitment to inflamed atherosclerotic plaques, promoting cell survival (By similarity). Involved in airway inflammation by promoting interleukin 2-producing T helper (Th2) cell survival in inflamed lung (By similarity). Involved in the migration of circulating monocytes to non-inflamed tissues, where they differentiate into macrophages and dendritic cells (By similarity). Acts as a negative regulator of angiogenesis, probably by promoting macrophage chemotaxis (PubMed:14581400, PubMed:18971423). Plays a key role in brain microglia by regulating inflammatory response in the central nervous system (CNS) and regulating synapse maturation (By similarity). Required to restrain the microglial inflammatory response in the CNS and the resulting parenchymal damage in response to pathological stimuli (By similarity). Involved in brain development by participating in synaptic pruning, a natural process during which brain microglia eliminates extra synapses during postnatal development (By similarity). Synaptic pruning by microglia is required to promote the maturation of circuit connectivity during brain development (By similarity). Acts as an important regulator of the gut microbiota by controlling immunity to intestinal bacteria and fungi (By similarity). Expressed in lamina propria dendritic cells in the small intestine, which form transepithelial dendrites capable of taking up bacteria in order to provide defense against pathogenic bacteria (By similarity). Required to initiate innate and adaptive immune responses against dissemination of commensal fungi (mycobiota) component of the gut: expressed in mononuclear phagocytes (MNPs) and acts by promoting induction of antifungal IgG antibodies response to confer protection against disseminated C.albicans or C.auris infection (PubMed:29326275). Also acts as a receptor for C-C motif chemokine CCL26, inducing cell chemotaxis (PubMed:20974991). Isoform 1. (Microbial infection) Acts as a coreceptor with CD4 for HIV-1 virus envelope protein. Isoform 2. (Microbial infection) Acts as a coreceptor with CD4 for HIV-1 virus envelope protein (PubMed:14607932). May have more potent HIV-1 coreceptothr activity than isoform 1 (PubMed:14607932). Isoform 3. (Microbial infection) Acts as a coreceptor with CD4 for HIV-1 virus envelope protein (PubMed:14607932). May have more potent HIV-1 coreceptor activity than isoform 1 (PubMed:14607932).

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.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

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Supplementary info

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

Activity summary	CX3CR1 also known as fractalkine receptor is a seven-transmembrane G protein-coupled receptor. It has a molecular weight of about 40 kDa. This receptor is expressed in various tissues particularly on immune cells like monocytes natural killer cells T cells and microglia. CX3CR1 binds to its ligand CX3CL1 or fractalkine which is a chemokine involved in directing cell movement. The receptor-ligand interaction is critical for the adhesion and migration of leukocytes to inflammatory sites.
Biological function summary	CX3CR1 plays a significant role in immune regulation and cellular migration. It is not part of a larger protein complex but interacts directly with monocyte and microglia cells influencing their activity. CX3CR1 is recognized as a marker for microglia in flow cytometry applications assisting in the identification of these brain-resident immune cells. The receptor is frequently studied using monoclonal antibodies like anti-CX3CR1 and is subject to inhibition by CX3CR1 antagonists such as 8e10 affecting its function in immune responses.
Pathways	CX3CR1 involves itself heavily in the chemokine signaling pathway and the inflammatory response pathway. Its interaction with CX3CL1 influences the PI3K-Akt signaling pathway modulating cell survival and proliferation. The receptor works in conjunction with CCR2 in monocyte navigation impacting the inflammatory cascade during immune response. Their coordinated action is important for cellular trafficking to sites requiring immune intervention.
Associated diseases and disorders	CX3CR1 has associations with neurodegenerative diseases such as Alzheimer's disease as well as with atherosclerosis. Changes in its expression and function can exacerbate these conditions. In Alzheimer's disease microglial CX3CR1 may mediate neuroinflammatory processes affecting plaque buildup. In atherosclerosis the receptor is involved in monocyte recruitment to plaques influenced by the related protein fractalkine. Understanding these relationships provides insights into potential therapeutic targets for modulating disease progression.

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.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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

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Terms & Conditions.

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