abcam

Product datasheet

Anti-SDF1 antibody [EPR1216] - Low endotoxin, Azide free ab157772

Recombinant RabMAb

3 References 5 Images

Overview

Product name	Anti-SDF1 antibody [EPR1216] - Low endotoxin, Azide free
Description	Rabbit monoclonal [EPR1216] to SDF1 - Low endotoxin, Azide free
Host species	Rabbit
Specificity	Mouse cross reactivity based on sequence analysis only. 100% sequence homology for isforms 1-6 (P48061; isoforms 1-6). This antibody is not suitable for endogenous detection in Western blot application.
Tested applications	**Suitable for:** Flow Cyt (Intra), ICC/IF, WB **Unsuitable for:** IP
Species reactivity	**Reacts with:** Human **Predicted to work with:** Mouse
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	Flow Cyt (Intra): Jurkat cells. ICC/IF: Human PBMC cells, Jurkat cells and THP-1 cells.
General notes	ab157772 is the carrier-free version of **ab155090**. Our **carrier-free** antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. The carrier-free buffer and high concentration allow for increased conjugation efficiency. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications. Use our **conjugation kits** for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**. Our **Low endotoxin, azide-free formats** have low endotoxin level (≤ 1 EU/ml, determined by the

LAL assay) and are free from azide, to achieve consistent experimental results in functional assays.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR1216
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab157772 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 (Intra)		Use at an assay dependent concentration. **ab199376** - Rabbit monoclonal IgG (Low endotoxin, Azide free), is suitable for use as an isotype control with this antibody.
ICC/IF		Use at an assay dependent concentration.
WB		Use at an assay dependent concentration.

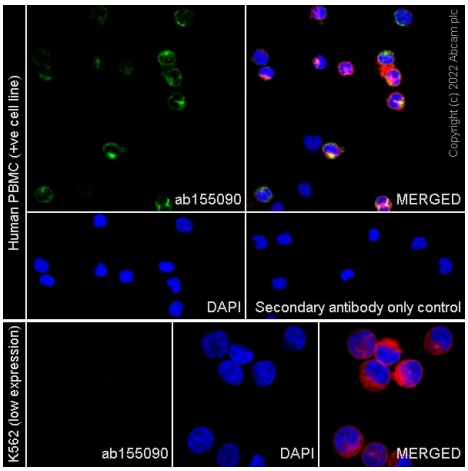
Application notes Is unsuitable for IP.

Target

Function Chemoattractant active on T-lymphocytes, monocytes, but not neutrophils. Activates the C-X-C chemokine receptor CXCR4 to induce a rapid and transient rise in the level of intracellular calcium ions and chemotaxis. Also binds to atypical chemokine receptor ACKR3, which activates the beta-arrestin pathway and acts as a scavenger receptor for SDF-1. SDF-1-beta(3-72) and SDF-1-alpha(3-67) show a reduced chemotactic activity. Binding to cell surface proteoglycans seems to inhibit formation of SDF-1-alpha(3-67) and thus to preserve activity on local sites. Acts as a positive regulator of monocyte migration and a negative regulator of monocyte adhesion via the LYN kinase. Stimulates migration of monocytes and T-lymphocytes through its receptors, CXCR4 and ACKR3, and decreases monocyte adherence to surfaces coated with ICAM-1, a ligand for beta-2 integrins. SDF1A/CXCR4 signaling axis inhibits beta-2 integrin LFA-1 mediated adhesion of monocytes to ICAM-1 through LYN kinase. Inhibits CXCR4-mediated infection by T-cell line-adapted HIV-1. Plays a protective role after myocardial infarction. Induces down-regulation and internalization of ACKR3 expressed in various cells. Has several critical functions during embryonic development; required for B-cell lymphopoiesis, myelopoiesis in bone marrow

	and heart ventricular septum formation.
Tissue specificity	Isoform Alpha and isoform Beta are ubiquitously expressed, with highest levels detected in liver, pancreas and spleen. Isoform Gamma is mainly expressed in heart, with weak expression detected in several other tissues. Isoform Delta, isoform Epsilon and isoform Theta have highest expression levels in pancreas, with lower levels detected in heart, kidney, liver and spleen.
Sequence similarities	Belongs to the intercrine alpha (chemokine CxC) family.
Developmental stage	Isoform Alpha is ubiquitously expressed in fetal tissues. Isoform Beta and isoform Delta have more limited expression patterns, with highest levels detected in fetal spleen and fetal liver, respectively. Isoform Gamma and isoform Theta are weakly detected in fetal kidney.
Post-translational modifications	Processed forms SDF-1-beta(3-72) and SDF-1-alpha(3-67) are produced after secretion by proteolytic cleavage of isoforms Beta and Alpha, respectively. The N-terminal processing is probably achieved by DPP4. Isoform Alpha is first cleaved at the C-terminus to yield a SDF-1-alpha(1-67) intermediate before being processed at the N-terminus. The C-terminal processing of isoform Alpha is reduced by binding to heparin and, probably, cell surface proteoglycans.
Cellular localization	Secreted.

Images

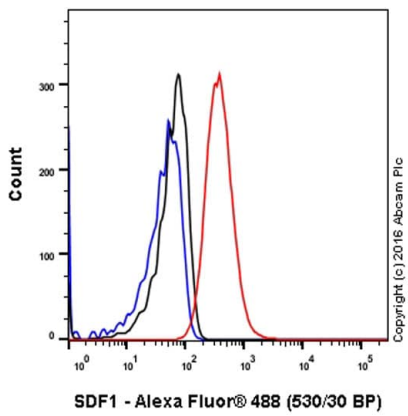


Immunocytochemistry/ Immunofluorescence - Anti-SDF1 antibody [EPR1216] - Low endotoxin, Azide free (ab157772)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized Human PBMC (Human primary peripheral blood mononuclear cell) cells labelling SDF1 with primary antibody anti-SDF1 (**ab155090**) at 1/100 dilution, followed by Alexa Fluor® 488 Goat anti-Rabbit secondary (**ab150077**) secondary antibody at 1/1000 dilution. Anti-alpha Tubulin antibody (DM1A) - Microtubule Marker (Alexa Fluor® 594) (**ab195889**) was used to counterstain tubulin at 1/200 dilution. The nuclear counter stain is DAPI (blue). Confocal image showing cytoplasmic staining in Human PBMC. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

Low expression control: K562 (PMID: 23473997)

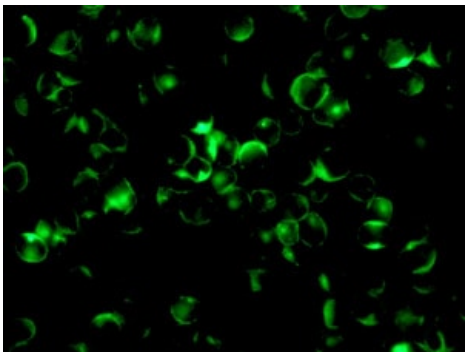
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab155090**).



Flow Cytometry (Intracellular) - Anti-SDF1 antibody [EPR1216] - Low endotoxin, Azide free (ab157772)

Intracellular Flow Cytometry analysis of Jurkat (human acute T cell leukemia) cells labeling SDF1 with purified **ab155090** at 1/20 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) was used as the unlabeled control.

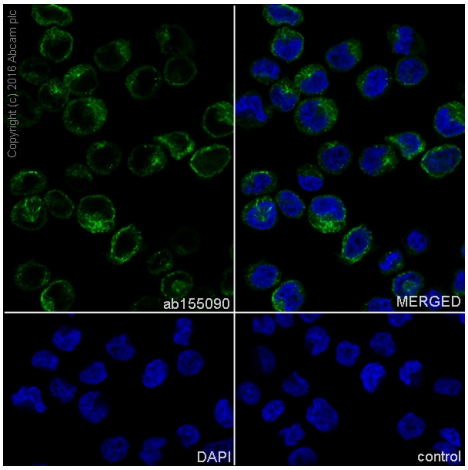
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (**ab155090**).



Immunocytochemistry/ Immunofluorescence - Anti-SDF1 antibody [EPR1216] - Low endotoxin, Azide free (ab157772)

This ICC data was generated using the same anti-SDF1 antibody clone, EPR1216, in a different buffer formulation (cat# **ab155090**).

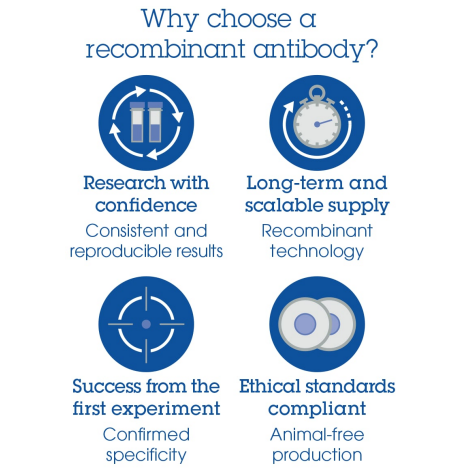
Immunofluorescent analysis of Jurkat cells, labeling SDF1 with **ab155090** at 1/100 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-SDF1 antibody [EPR1216] - Low endotoxin, Azide free (ab157772)

This ICC data was generated using the same anti-SDF1 antibody clone, EPR1216, in a different buffer formulation (cat# **ab155090**).

Immunocytochemistry/Immunofluorescence analysis of THP-1 (Human monocytic leukemia cell line) labeling SDF1 with Purified **ab155090** at 1/500 dilution (5 µg/ml). Cells were fixed with 4% PFA and permeabilized with 0.1% tritonX-100. **ab150077** Goat anti rabbit IgG(Alexa Fluor® 488) at 1/1000 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI. PBS was used instead of the primary antibody as the negative control.



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