abcam

ab9797

Anti-SDF1 antibody

Anti-SDF1 antibody (ab9797) is a rabbit polyclonal antibody detecting SDF1 in **Western Blot, IHC-P, ELISA**. Suitable for **Human,**.

- Over 90 publications
- Trusted since 2002

Key facts

Isotype	Unknown
Host species	Rabbit
Storage buffer	Constituents: PBS
Form	Lyophilized
Clonality	Polyclonal
Immunogen	Recombinant Fragment Protein within Human CXCL12 aa 1 to C-terminus. The exact immunogen used to generate this antibody is proprietary information. Database link P48061
Carrier free	Yes
Purification technique	Affinity purification Immunogen
Light chain type	unknown
Reconstitution	Reconstitute with 200µl of sterile water. Please note that if you receive this product in liquid form it has already been reconstituted as described and no further reconstitution is necessary.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	2 µg/mL
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Predicted

Species	Goat
Dilution info	-
Notes	-

Not recommended

Species	Recombinant full length protein - Human
Dilution info	-
Notes	-

WB

Tested

Species	Recombinant full length protein - Human
Dilution info	-
Notes	To detect hSDF-1a by Western Blot analysis this antibody can be used at a concentration of 0.1 - 0.2 µg/ml. Used in conjunction with compatible secondary reagents the detection limit for recombinant hSDF-1a is 1.5 - 3.0 ng/lane, under either reducing or non-reducing conditions.

Expected

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

Predicted

Species	Goat
Dilution info	-
Notes	-

sELISA

Tested

Species	Recombinant full length protein - Human
Dilution info	2 µg/mL
Notes	(using 100 µl/well antibody solution). This antigen affinity purified antibody, in conjunction with ab84277 as a detection antibody, allows the detection of at least 0.2 - 0.4 ng/well of recombinant Human SDF1 alpha.

Expected

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

Predicted

Species	Goat
Dilution info	-
Notes	-

Target data

See full target information CXCL12

Function Chemoattractant active on T-lymphocytes and 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. 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. Also binds to atypical chemokine receptor ACKR3, which activates the beta-arrestin pathway and acts as a scavenger receptor for SDF-1. Binds to the allosteric site (site 2) of integrins and activates integrins ITGAV:ITGB3, ITGA4:ITGB1 and ITGA5:ITGB1 in a CXCR4-independent manner (PubMed:29301984). 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. Stimulates the proliferation of bone marrow-derived B-cell progenitors in the presence of IL7 as well as growth of stromal cell-dependent pre-B-cells (By similarity).

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

Notes

What is this antibody validated in?
Anti-SDF1 antibody (ab9797) is a rabbit polyclonal antibody and is validated for use in Western Blot (WB), Immunohistochemistry (IHC-P), ELISA in Human, samples.

Trusted by the scientific community
Anti-SDF1 (ab9797) was first used in a scientific publication in 2002 and has been cited over 90 times in peer-reviewed journals.

Reviewed by scientists
Anti-SDF1 (ab9797) has over 10 independent reviews from customers.

Supplementary info

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

Activity summary	The stromal cell-derived factor 1 (SDF1) also known as C-X-C motif chemokine 12 (CXCL12) is a chemokine protein that is important in immunological responses and

	cellular signaling. This protein weighs approximately 8 kDa. SDF1 is largely expressed in bone marrow stroma liver and endothelium of various tissues positioning it as an integral player in cell migration and homing processes. The protein functions as a chemoattractant for lymphocytes promoting cellular trafficking and organ development.
Biological function summary	SDF1 influences the migration and survival of hematopoietic progenitor cells. It plays a pivotal role in heart development angiogenesis and neuronal protein regulation. SDF1 binds with high affinity to its receptor CXCR4 forming a critical signal transduction complex that modulates cellular movement and growth responses. This interaction is important in the regulation of cell positioning and potential pathways of pathological changes.
Pathways	SDF1 has an important role in the chemokine signaling pathway and is involved in the pathways controlling hematopoietic stem cell migration and homing. The interaction between SDF1 and CXCR4 triggers downstream signaling events engaging proteins like PI3K and MAPK which promote cell survival and proliferation. Furthermore the SDF1/CXCR4 axis is central to the vascular endothelial growth factor (VEGF) pathway facilitating angiogenesis and tissue repair mechanisms.
Associated diseases and disorders	SDF1 relates closely to cancer metastasis and HIV infection. The SDF1/CXCR4 interaction acts as a co-receptor for HIV entry into host cells implicating it in viral pathogenesis. Overexpression of SDF1 and its binding partner CXCR4 contributes to tumor growth invasion and metastasis in various cancers by promoting angiogenesis and tumor cell migration. The targeting of the SDF1/CXCR4 axis holds therapeutic potential in cancer treatment and infectious disease management.

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

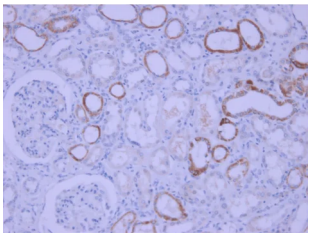
We do not recommend this combination. It is not covered by our product promise.

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.

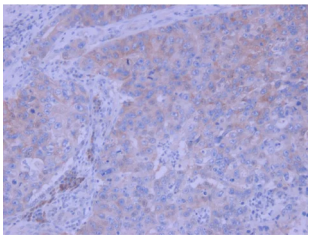
Full details and terms and conditions can be found here:
Terms & Conditions.

4 product images



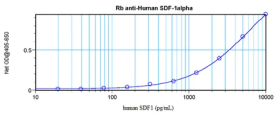
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SDF1 antibody (ab9797)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue labelling SDF1 with ab9797 at 2 µg/mL (45 minute incubation at room temperature). Heat mediated antigen retrieval was performed using a buffer at pH 6. An HRP-labeled polymer detection system was used with a DAB chromogen.



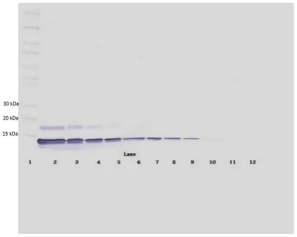
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SDF1 antibody (ab9797)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human lung cancer tissue labelling SDF1 with ab9797 at 2 µg/mL (45 minute incubation at room temperature). Heat mediated antigen retrieval was performed using a buffer at pH 6. An HRP-labeled polymer detection system was used with a DAB chromogen.



Sandwich ELISA - Anti-SDF1 antibody (ab9797)

Sandwich ELISA detecting SDF1 using ab9797 at a concentration of 2.0 µg/ml.



Western blot - Anti-SDF1 antibody (ab9797)

To detect human SDSF1 by Western Blot analysis, ab9739 can be used at a concentration of 0.1-0.2 µg/ml. When used in conjunction with compatible development reagents, the detection limit for recombinant human SDF1 is 1.5-3.0 ng/lane, under either reducing or non-reducing conditions.
Lanes 1-11: 250, 125, 62.5, 31.25, 15.625, 7.8, 3.9, 1.95, 0.975, 0.4875 and 0.24 ng recombinant human SDF1, respectively.

Non-reducing conditions.

All lanes:
Western blot - Anti-SDF1 antibody (ab9797)

Predicted band size: 10 kDa