abcam

ab283686

Anti-Langerin antibody [EPR24685-12]

Recombinant | RabMAb | Advanced Validation | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR24685-12
Purification technique	Affinity purification Protein A
Specificity	This antibody has been tested with overexpressing langerin samples in western blot, ICC/IF and flow cytometry.
Concentration	0.563 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-

Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Species	Human
Dilution info	1/500
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/1000

Notes	-

Species	Mouse
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

mIHC

Tested

Species	Mouse
Dilution info	1/1000
Notes	Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Expected

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information CD207

Function	Calcium-dependent lectin displaying mannose-binding specificity. Induces the formation of Birbeck granules (BGs); is a potent regulator of membrane superimposition and zippering. Binds to sulfated as well as mannosylated glycans, keratan sulfate (KS) and beta-glucans. Facilitates uptake of antigens and is involved in the routing and/or processing of antigen for presentation to T cells. Major receptor on primary Langerhans cells for Candida species, Saccharomyces species, and Malassezia furfur. Protects against human immunodeficiency virus-1 (HIV-1) infection. Binds to high-mannose structures present on the envelope glycoprotein which is followed by subsequent targeting of the virus to the Birbeck granules leading to its rapid degradation.

Storage

Shipped at conditions	Conditional Ambient
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

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.

Supplementary info

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

Activity summary	Langerin also known as CD207 is a type II transmembrane protein involved in the immune response. It weighs approximately 40 kDa and is expressed mainly in Langerhans cells a specialized subset of dendritic cells found in the skin and mucosal tissues. Langerin functions as a C-type lectin receptor with the ability to recognize and internalize glycosylated antigens. This target facilitates the capture and presentation of antigens enhancing the immune surveillance process.
Biological function summary	Langerin supports Langerhans cells in the recognition and processing of pathogens. The protein forms homotrimers enabling it to bind specific mannose-rich glycan structures on pathogens such as viruses and bacteria. Through its endocytic properties Langerin internalizes these antigens into Birbeck granules unique organelles in Langerhans cells promoting antigen processing and presentation to T cells therefore initiating immune responses.
Pathways	Langerin is critical for antigen uptake and processing via the lectin pathway of endocytosis. It interacts with other dendritic cell receptors and influences signaling pathways that enhance immune activation such as the Syk and Raf-1 kinase pathways. Langerin's ability to internalize antigens connects it with proteins like DC-SIGN and MR which share roles in pathogen recognition and immune modulation.
Associated diseases and disorders	Langerin plays a significant role in conditions like Langerhans Cell Histiocytosis (LCH) and HIV. In LCH abnormal proliferation of Langerhans cells occurs where Langerin expression helps in diagnosing and characterizing LCH lesions. In the context of HIV Langerin interacts with viral particles reducing their ability to infect immune cells. This protein also relates to other immune receptors like CD40 and CD86 which regulate immune responses in associated disorders.

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

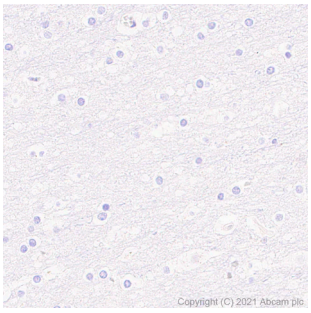
We do not recommend this combination. It is not covered by our product promise.

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.

13 product images

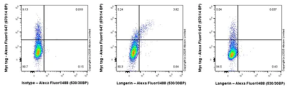


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Langerin antibody

Immunohistochemical analysis of paraffin-embedded Human cerebrum tissue labelling Langerin with ab283686 at 1/500 (1.066 µg/mL) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Negative control: no staining on human cerebrum. The section was incubated with ab283686 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

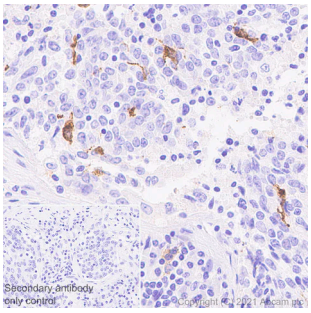
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Flow Cytometry (Intracellular) - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Flow Cytometry (Intracellular) staining using rabbit Anti-Langerin antibody

Flow cytometry (intracellular) analysis of transfected 293T cells. Cells were fixed with 4% PFA for 10 minutes and permeabilised with 0.1% Tween-20 before staining for Langerin in 293T cells transfected with a human Langerin expression vector containing a myc-His-tag® using ab283686 1/1000 dilution (0.1ug) conjugated to Alexa Fluor® 647. (Middle panel). Staining was compared with 293T cells transfected with an empty expression vector containing a myc-His-tag® (Right panel) and with an isotype control, Rabbit monoclonal IgG (ab172730) (left panel). Goat Anti-Rabbit IgG (Alexa Fluor® 488, ab150081) was used as the secondary antibody at a 1/5000 dilution.

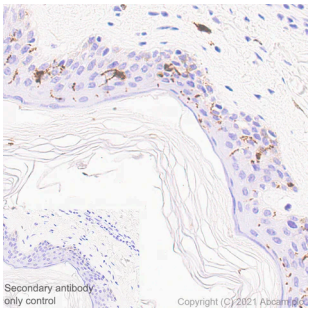


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Langerin antibody

Immunohistochemical analysis of paraffin-embedded Human lung carcinoma tissue labelling Langerin with ab283686 at 1/500 (1.066 µg/mL) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining on scattered cells in human lung carcinoma. The section was incubated with ab283686 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin. Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

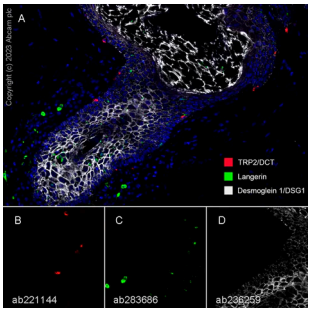


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Langerin antibody

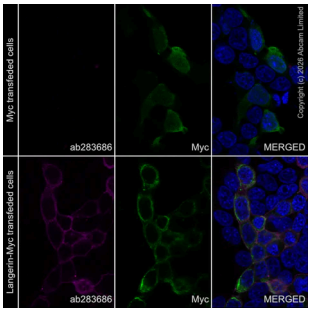
Immunohistochemical analysis of paraffin-embedded Human skin tissue labelling Langerin with ab283686 at 1/500 (1.066 µg/mL) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining on Langerhans cells in human skin. The section was incubated with ab283686 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Multiplex immunohistochemistry - Anti-Langerin antibody [EPR24685-12] (ab283686)

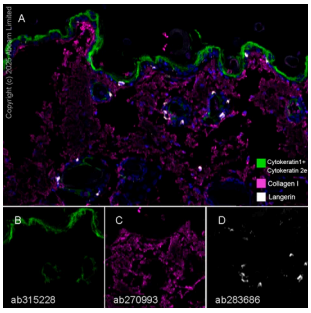
Panel A: merged staining of anti-Desmoglein 1/DSG1 (gray; Opal™690), anti-Langerin (green; Opal™520) and anti-TRP2/DCT (red; Opal™570) on human skin. Panel B: anti-TRP2/DCT stained on melanocytes. Panel C: anti-Langerin stained on Langerhans cells. Panel D: anti-Desmoglein 1/DSG1 stained on epidermis. The section was incubated in three rounds of staining: in the order of ab236259, ab283686, and ab221144 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system. The immunostaining was performed on a Leica Biosystems BOND® RX instrument with an Opal™ 4-color kit. Image acquisition was performed with Leica SP8 confocal microscope.



Immunocytochemistry/ Immunofluorescence - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Langerin antibody

Immunofluorescent analysis of 4% Paraformaldehyde fixed 0.1% Triton X-100 permeabilized transfected HEK-293T cells labelling Langerin with ab283686 at 1/1000 (1.008 µg/ml) followed by ab150088 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) preadsorbed antibody as secondary at 1/1000 (2 µg/ml) dilution. Confocal image showing positive staining in HEK-293T cells transfected with a human CD207/Langerin expression vector containing a myc-His-tag® (shown in green). ab202008 Anti-Myc tag mouse monoclonal antibody (Alexa Fluor® 488) at 1/100 (5µg/ml) was used as a counterstain (shown in magenta). Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



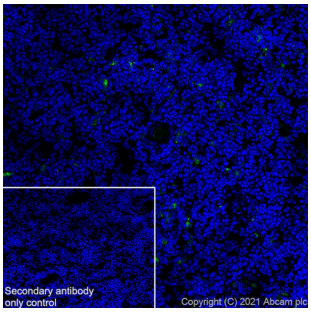
Multiplex immunohistochemistry - Anti-Langerin antibody [EPR24685-12] (ab283686)

Multiplex immunohistochemistry analysis of formalin/PFA-fixed paraffin-embedded Mouse skin staining of Cytokeratin 1 + Cytokeratin 2e with ab315228 at a 1/2000 (0.263 µg/ml) dilution, Collagen I with ab270993 and Langerin with ab283686 at a 1/1000 dilution followed by a ready to use secondary antibody Opal Polymer HRP Ms + Rb.

Panel A: merged staining of anti-Cytokeratin 1 + Cytokeratin 2e (green; Opal™520), anti-Collagen I (magenta; Opal™690) and anti-Langerin (gray; Opal™570) on mouse skin.
Panel B: anti-Cytokeratin 1 + Cytokeratin 2e staining epidermis keratin layer in mouse skin.
Panel C: anti-Collagen I staining connective tissues in mouse skin.
Panel D: anti-Langerin staining Langerhans cells in mouse skin.
Nuclear DNA was labeled with DAPI (shown in blue).

The section was incubated in three rounds of staining: in the order of ab315228, ab270993 and ab283686 for 30 mins at room temperature. Each round was followed by a separate fluorescent tyramide signal amplification system,

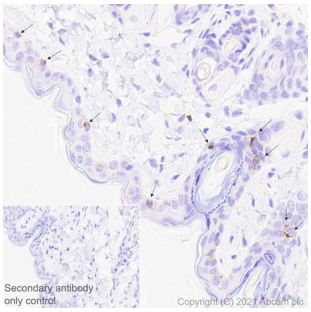
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunohistochemistry (Frozen sections) - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Immunohistochemistry (Frozen sections) staining using rabbit Anti-Langerin antibody

Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse thymus (fresh) tissue labeling Langerin with ab283686 at 1/100 (5.33 µg/mL) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 µg/mL dilution (Green). Positive staining on mouse thymus is observed. The nuclear counterstain was DAPI (Blue). Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 µg/mL dilution.

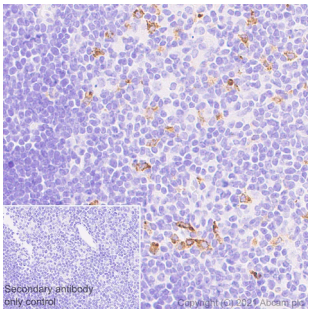


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Langerin antibody

Immunohistochemical analysis of paraffin-embedded Mouse skin tissue labelling Langerin with ab283686 at 1/500 (1.066 µg/mL) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining on Langerhans cells in mouse skin. The section was incubated with ab283686 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.

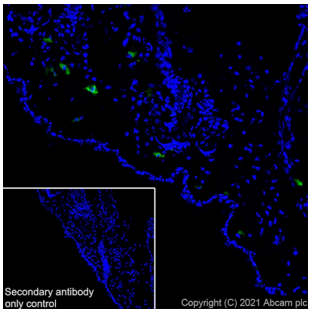


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Langerin antibody

Immunohistochemical analysis of paraffin-embedded Mouse thymus tissue labelling Langerin with ab283686 at 1/500 (1.066 µg/mL) followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used. Positive staining on scattered immune cells in mouse thymic medulla. The section was incubated with ab283686 for 30 mins at room temperature.The immunostaining was performed on a Leica Biosystems BOND® RX instrument Counterstained with Hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection) was used.

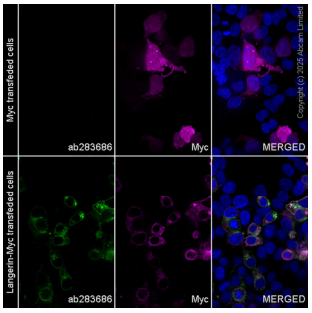
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution2) for 20 mins.



Immunohistochemistry (Frozen sections) - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Immunohistochemistry (Frozen sections) staining using rabbit Anti-Langerin antibody

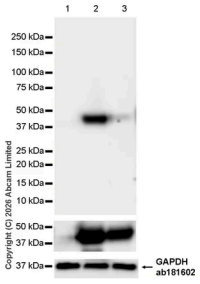
Immunohistochemical analysis of 4% PFA-fixed, 0.2% Triton X-100 permeabilized frozen Mouse skin (fresh) tissue labeling Langerin with ab283686 at 1/100 (5.33 µg/mL) dilution followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 2 µg/mL dilution (Green). Positive staining on Langerhans cells of mouse skin is observed. The nuclear counterstain was DAPI (Blue).
Secondary antibody control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbedat 1/1000 2 µg/mL dilution.



Immunocytochemistry/ Immunofluorescence - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Langerin antibody

Immunofluorescent analysis of 4% Paraformaldehyde fixed 0.1% Triton X-100 permeabilized transfected HEK-293T cells labelling Langerin with ab283686 at 1/1000 (1.008 µg/ml) followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody as secondary at 1/1000 (2 µg/ml) dilution. Confocal image showing positive staining in HEK-293T cells transfected with a mouse CD207/Langerin expression vector containing a myc-His-tag® (shown in green). ab223894 Anti-Myc tag mouse monoclonal antibody (Alexa Fluor® 594) at 1/100 (5µg/ml) was used as a counterstain (shown in magenta). Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Western blot - Anti-Langerin antibody [EPR24685-12] (ab283686)

Langerin Western blot staining using rabbit Anti-Langerin antibody

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/200000 dilution (36KDa).

In Western blot, Anti-6X His tag® antibody [AD1.1.10] total protein control (1/1000) (30KDa)

All lanes:
Western blot - Anti-Langerin antibody [EPR24685-12] (ab283686) at 1/1000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) transfected with an empty vector containing a His-tag, whole cell lysate at 20 µg

Lane 2:
293T transfected with a human CD207/Langerin expression vector containing a His-tag, whole cell lysate at 20 µg

Lane 3:
293T transfected with a mouse CD207/Langerin expression vector containing a His-tag, whole cell lysate (Low Expression) at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Observed band size: 40 kDa

Exposure time: 15s

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