

# Langerin (H-4): sc-271272

## BACKGROUND

Langerhans cells (LCs) are a subset of immature dendritic cells (DCs) that specifically localize in the epidermis and other mucosal epithelia. Epidermal LCs possess strong immunostimulatory capacity and play a central role in the initiation and regulation of immune responses. Langerin (CD207) is a Ca<sup>2+</sup>-dependent, C-type lectin domain-containing, type II transmembrane protein that induces epidermal LCs to differentiate into Birbeck granules (BG). BGs are organelles with superimposing and zippering membranes that influence proper class I type antigen presentation to the circulating T cells. Human spleen, lymph node, thymus, liver, lung and heart express Langerin protein. The human langerin gene maps to chromosome 2p13.3 and encodes a 328 amino acid protein.

## CHROMOSOMAL LOCATION

Genetic locus: CD207 (human) mapping to 2p13.3.

## SOURCE

Langerin (H-4) is a mouse monoclonal antibody raised against amino acids 1-200 mapping at the N-terminus of Langerin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Langerin (H-4) is available conjugated to agarose (sc-271272 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271272 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271272 PE), fluorescein (sc-271272 FITC), Alexa Fluor® 488 (sc-271272 AF488), Alexa Fluor® 546 (sc-271272 AF546), Alexa Fluor® 594 (sc-271272 AF594) or Alexa Fluor® 647 (sc-271272 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271272 AF680) or Alexa Fluor® 790 (sc-271272 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

Langerin (H-4) is recommended for detection of Langerin of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Langerin siRNA (h): sc-43888, Langerin shRNA Plasmid (h): sc-43888-SH and Langerin shRNA (h) Lentiviral Particles: sc-43888-V.

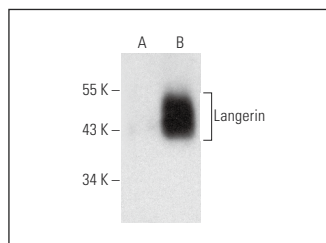
Molecular Weight of Langerin: 48 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or Langerin (h): 293 Lysate: sc-159824.

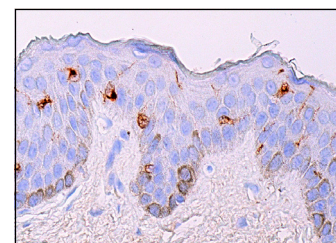
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Langerin (H-4): sc-271272. Western blot analysis of Langerin expression in non-transfected: sc-110760 (A) and human Langerin transfected: sc-159824 (B) 293 whole cell lysates.



Langerin (H-4): sc-271272. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing membrane and cytoplasmic staining of Langerhans cells.

## SELECT PRODUCT CITATIONS

1. Takahashi, R., et al. 2020. Defining transcriptional signatures of human hair follicle cell states. *J. Invest. Dermatol.* 140: 764-773.e4.
2. Pergolizzi, S., et al. 2022. Role of serotonin in the maintenance of inflammatory state in Crohn's disease. *Biomedicines* 10: 765.
3. Lauriano, E.R., et al. 2023. Immunohistochemistry of the gut-associated lymphoid tissue (GALT) in African bonytongue (*Heterotis niloticus*, Cuvier 1829). *Int. J. Mol. Sci.* 24: 2316.
4. Lombardo, G.P., et al. 2024. Immunohistochemical characterization of langerhans cells in the skin of three amphibian species. *Biology* 13: 210.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

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