



Langerin (M-200): sc-33768

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^{2+} -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 zipper 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 and encodes a 328 amino acid.

REFERENCES

- Valladeau, J., et al. 1999. The monoclonal antibody DCGM4 recognizes Langerin, a protein specific of Langerhans cells, and is rapidly internalized from the cell surface. *Eur. J. Immunol.* 29: 2695-2704.
- Valladeau, J., et al. 2000. Langerin, a novel C-type lectin specific to Langerhans cells, is an endocytic receptor that induces the formation of Birbeck granules. *Immunity* 12: 71-81.
- Mohamadzadeh, M., et al. 2001. Interleukin 15 skews monocyte differentiation into dendritic cells with features of Langerhans cells. *J. Exp. Med.* 194: 1013-1020.
- Larregina, A.T., et al. 2001. Dermal-resident CD14⁺ cells differentiate into Langerhans cells. *Nat. Immunol.* 2: 1151-1158.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 604862: World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Valladeau, J., et al. 2002. Identification of mouse Langerin/CD207 in Langerhans cells and some dendritic cells of lymphoid tissues. *J. Immunol.* 168: 782-792.
- Takahara, K., et al. 2002. Identification and expression of mouse Langerin (CD207) in dendritic cells. *Int. Immunol.* 14: 433-444.
- LocusLink Report (LocusID: 2243). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: LANGERIN (human) mapping to 2p13; Langerin (mouse) mapping to 6 D1-D2.

SOURCE

Langerin (M-200) is a rabbit polyclonal antibody raised against amino acids 1-200 mapping at the N-terminus of Langerin of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

Langerin (M-200) is recommended for detection of Langerin of mouse and rat origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Langerin siRNA (m): sc-43889.

Molecular Weight of Langerin: 48 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 or our catalog for detailed protocols and support products.