The CD207 antigen (Langerin) is a C-type lectin described as selectively expressed by Langerhans cells (LCs), a subset of dendritic cells (DCs). CD207 is a glycoprotein of 40 kDa predominantly N-glycosylated, containing no disulfide bonds. Its expression, restricted to the Langerhans cell lineage, is demonstrated at the surface membrane as well as in Birbeck granules, those organelles specific for LCs.

Several lines of evidence indicate that CD207 is a specific marker for the acquisition of the Langerhans cell phenotype, and that it is down-regulated beyond the LC maturation stage. Also, Langerin is not involved in antigen delivery into the MHC class II pathway but might play a role in antigen capture.

- CD207 is present only in epidermis and airway epithelia.
- It is never detected in purified DCs, when isolated from peripheral blood, lymph nodes or thymus.
- CD1a+ DCs derived from cord blood CD34+ cell cultures in the presence of GM-CSF and TNFα express Langerin between day 8 and 12.
- DCs derived from peripheral blood monocytes cultured with GM-CSF and IL-4 do not express the CD207 antigen.
- Signals like TGFβ known to induce in vitro a LC phenotype up-regulate CD207 expression. Signals known to trigger DC maturation down-regulate CD207 expression.
- CD207 ligation triggers endocytosis as rapid as that mediated by the Mannose Receptor.
- CD207-mediated rapid endocytosis does not intersect with translocation of MHC class II molecules.
- CD207 is directly involved in antigen capture and its subsequent endocytosis may induce the formation of Birbeck granules.

The DCGM4 monoclonal antibody (mAb) exclusively stains immature DCs of the LC lineage. Unlike Lag antibody, DCGM4 is directed to a surface epitope of CD207. In flow cytometry, both intracytoplasmic and surface membrane stainings are observed. DCGM4 mAb acts as a ligand for Langerin, triggering rapid endocytosis within 60 minutes at 37°C.

This antibody has been used in:
- In flow cytometry, to determine the differentiation of CD1a+/CD11c- subset of blood DCs into LCs.

**SPECIFICITY**

**APPLICATION**

- Flow cytometry

**STATEMENT OF WARNINGS**

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal pipping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.

2. This reagent is stable up to the expiration date on the label. Do not use antibody beyond the expiration date. Do not expose reagents or incorrect results might occur.

3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.

4. Use good laboratory practices when handling this reagent.

**STORAGE CONDITIONS AND STABILITY**

- Store reagent at 2-8°C in the dark.

**PRODUCT AVAILABLE**

- CD207 (Langerin) PE Conjugated Antibody
- Assay volume: 20 µL per 5 x 10^6 cells in one test, or per 100 µL whole blood.

**REFERENCES**


