Novocastra™ Lyophilized Mouse Monoclonal Antibody Langerin

Product Code: NCL-LANGERIN

Intended Use	FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES.
Specificity	Human Langerin.
Clone	12D6
Ig Class	IgG2b
Antigen Used for Immunizations	Prokaryotic recombinant protein of 29 kD corresponding to the external domain of the Langerin molecule.
Hybridoma Partner	Mouse myeloma (p3-NS1-Ag4-1).
Preparation	Lyophilized tissue culture supernatant containing sodium azide. Reconstitute with 1 mL or 0.1 mL of sterile distilled water as indicated on vial label.
Effective on Frozen Tissue	Not fully evaluated.
Effective on Paraffin Wax Embedded Tissue	Yes.
Recommendations on Use	Immunohistochemistry on paraffin sections. **Heat Induced Epitope Retrieval (HIER):** Please follow the instructions for use in Novocastra Epitope Retrieval Solution pH 6. **Suggested dilution:** 1:50 for 30 minutes at 25 °C. This is provided as a guide and users should determine their own optimal working dilutions. **Visualization:** Please follow the instructions for use in the Novolink™ Polymer Detection Systems. For further product information or support, contact your local distributor or regional office of Leica Biosystems, or alternatively, visit the Leica Biosystems Web site, www.LeicaBiosystems.com The performance of this antibody should be validated when utilized with other manual staining systems or automated platforms.
Positive Controls	Immunohistochemistry: Skin.
Staining Pattern	Granular cytoplasmic and membrane.
Storage and Stability	Store unopened lyophilized antibody at 2-8 °C. Under these conditions, there is no significant loss in product performance up to the expiry date indicated on the vial label. The reconstituted antibody is stable for at least two months when stored at 2-8 °C. For long term storage, it is recommended that aliquots of the antibody are frozen at -20 °C (frost-free freezers are not recommended). Repeated freezing and thawing must be avoided. Prepare working dilutions on the day of use.
Warnings and Precautions	This reagent has been prepared from the supernatant of cell culture. As it is a biological product, reasonable care should be taken when handling it. This reagent contains sodium azide. A Material Safety Data Sheet is available upon request or available from www.LeicaBiosystems.com

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BIOSYSTEMS

General Overview

Langerin is a type II transmembrane C-type lectin which has mannose-binding specificity. It is a 40 kD protein restricted to Langerhans cells that is involved in the internalization of cell surface material in immature dendritic cells. Dendritic cells are antigen-presenting cells that are required for initiation of a specific T cell-driven immune response. Dendritic cells, found in non-lymphoid tissue, are immature cells, whose primary function is to capture antigen through specialized surface membrane endocytic structures or through macropinocytosis. The dendritic cells migrate to secondary lymphoid tissue and mature into efficient antigen presenting cells. A part of the maturation process includes the loss of adhesion receptors such as E-cadherin and the disappearance of Birbeck granules. Although Langerin is located on the cell surface, it can be rapidly internalized following ligand capture into Birbeck granules. In fact, Langerin is a potent inducer of membrane superimposition and zippering leading to Birbeck granule formation. It has been suggested that the induction of Birbeck granules is a consequence of the antigen-capture function of Langerin allowing passage into these organelles and providing access to a non-classical antigen processing pathway.

General References

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Bell D, Chomarat P, Broyles D, et al.. Journal of Experimental Medicine. 190 (10): 1417–1426 (1999).
Valladeau J, Duvert–Frances V, Pin J-J, et al.. European Journal of Immunology. 29: 2695–2704 (1999).