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Introduction to Dendritic Cells

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## **Migration of Dendritic Cells**

Steinman Laboratory

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## **Migration of Dendritic Cells**

Before dendritic cells can perform their major function—to initiate the immune response—two events typically need to take place, migration and maturation. Most dendritic cells circulate in the body in an "immature" state and lack many features that lead to a strong T-cell response. Immature dendritic cells are, nonetheless, ideally poised and well equipped to capture microbes and other sources of antigens. Dendritic cells are stationed at surfaces where antigens gain access to the body. For example, they are positioned in the skin, where they are termed Langerhans cells. There, dendritic cells are involved with two of the body's most powerful immune responses, organ transplantation and contact allergy. Dendritic cells are also located in distinct incoming channels, called lymphatic vessels, which allow cells to move from peripheral tissues to lymphoid organs. There they can encounter immune lymphocytes, selecting those cells that specifically recognize the antigens being carried by the dendritic cells. At this point the immune response begins. The lymphocytes begin to grow vigorously and they start to produce products that will serve to eliminate infections and other sources of antigens.