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Sommario/riassunto	Dendritic cells (DC) are among the first cells to encounter pathogens and damage in peripheral tissues and, upon activation, DC migrate to lymph nodes where they activate and educate T cells to initiate and shape the immune response. DC present pathogen-derived antigen to T cells and drive T cell differentiation into particular effector cells through the expression and secretion of co-stimulatory molecules and cytokines respectively. The study of DC biology has included the identification of multiple DC subsets in tissues and lymphoid organs, the differentiation and plasticity of DC subsets, the functional consequences of DC interaction with pathogen, control of DC migratory properties and the impact of DC on T cell activation and differentiation. In recent years sophisticated systems biology approaches have been developed to deepen our understanding of DC function. These studies have identified differences between DC subsets located in various tissues and critical factors that drive the outcome of the interaction between DC and T cells. DC are currently being used in various clinical therapeutic settings, including as vaccines for cancer and autoimmune disease. A clear understanding of DC factors that contribute to specific immune responses is vital to the success of DC based therapies. This research topic will give a comprehensive overview of current issues in DC biology and provides an update on the clinical uses of DC in the therapy of autoimmunity and cancer.