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New insights into the multidimensional concept of macrophage ontogeny, activation and function

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Abstract

Macrophages have protective roles in immunity to pathogens, tissue development, homeostasis and repair following damage. Maladaptive immunity and inflammation provoke changes in macrophage function that are causative of disease. Despite a historical wealth of knowledge about macrophages, recent advances have revealed unknown aspects of their development and function. Following development, macrophages are activated by diverse signals. Such tissue microenvironmental signals together with epigenetic changes influence macrophage development, activation and functional diversity, with consequences in disease and homeostasis. We discuss here how recent discoveries in these areas have led to a multidimensional concept of macrophage ontogeny,

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