

Abstract:

Innate lymphoid cells (ILCs) are recently discovered group of innate immune cells. They do not have antigen-specific receptors but they can be activated by cytokines similarly to T lymphocytes. ILCs have a crucial role in the regulation of inflammation, tissue repair, containment of commensals, anti-infection immunity and regulation of tissue homeostasis. The presence of mouse and human ILCs can be detected in the lung during and after influenza virus infection when ILCs contribute to the restoration of damaged lung parenchyma. ILCs directly or indirectly provide protection against viral infections by secretion of various cytokines and co-operation with other cells (e.g. T cells, macrophages). Overall, lung ILCs are important in immune responses and tissue homeostasis, but further studies on this topic are needed to fully understand their role. The aim of this thesis was to specifically characterize these cells, focus on their function in the lung, and describe their role in the course of influenza virus infection.