

The ins and outs of T cell trafficking in asthma

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Allergic asthma is a syndrome characterized by eosinophilic airway inflammation associated with airways hyperresponsiveness (AHR) and increased mucus production. Data from studies of patients with asthma as well as from animal models have demonstrated that CD4⁺ T cells are critical mediators of the allergic airway inflammation seen in asthma. While it is established that T cells are central to the pathogenesis of asthma, the molecular mechanisms that control T cell homing into and out of the lung in asthma are not completely known. Recently, we and others have made progress in delineating these mechanisms, which has led us to propose the central hypothesis of my talk: *T cell trafficking into and out of the allergic lung is controlled sequentially by several discrete regulatory pathways that involve the collaboration of innate and acquired immune cells.* We propose a four-step model of T cell trafficking in asthma that includes an *Initiation Phase*, a *Propagation Phase*, an *Amplification Phase* and a *Resolution Phase*. Data supporting this hypothesis will be presented and the potential impact of these data and the proposed model on future asthma will be discussed.

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