

TRAIL IS A KEY REGULATOR OF TH2 CELL RESPONSES AND ALLERGIC DISEASE OF THE LUNG

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Tumor necrosis factor-related apoptosis-inducing ligand (TRAIL) has been linked to allergic asthma, but its contribution to pathogenesis is unknown.

Aim: To investigate the role of TRAIL in the pathogenesis of asthma in an experimental mouse model of Ovalbumin-induced allergic lung disease.

Results: TRAIL was upregulated in the airway epithelium in mice with allergic lung disease, and production regulated by allergen-specific Th2 cells. Inhibition of TRAIL expression -by employing TRAIL deficient mice or RNA interference strategies- attenuated pulmonary Th2 cytokine production, inflammation, and airways hyperreactivity.

Conclusion: Thus, TRAIL is an important cytokine released after allergen challenge of the airways that is necessary for the development of key features of allergic asthma. Furthermore, production of TRAIL in the airway epithelium may provide a significant target for the treatment of bronchial asthma.

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