



Bacterial:Epithelial Cross-Talk and the Establishment of the Mucosal Immune System

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Project Description: This project will investigate the role of bacterial-epithelial cell interactions in the establishment and modulation of intestinal leukocyte populations, which are important for mucosal immune defense. Four *in vivo* models will be used to examine the responses of mucosal epithelial cells to bacteria *in vivo* and the importance of this interaction in leukocyte subset recruitment to the intestinal mucosa. The results obtained will take into account interactions between bacterial pathogens and the normal intestinal microflora in modulating the intestinal epithelial response. In addition, the project aims to determine molecular mechanisms underlying leukocyte subset recruitment to the intestinal mucosa in response to bacterial colonization/ infection. In this way it should be possible to identify novel targets, and to modulate intestinal immune response and hence the treatment of acute and chronic mucosal diseases.

Aims

- (i) To examine the influence of bacterial microflora and bacterial pathogens on the intestinal epithelial gene and protein expression
- (ii) To determine the *in vivo* role of bacterially induced epithelial chemoattractants in leukocyte recruitment to the intestinal mucosa.

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