

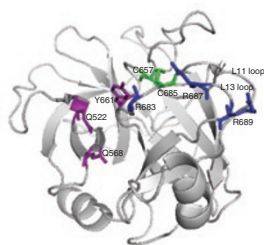
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Retinoic acid

Recent literature suggests a central role for retinoic acid not only in driving mucosal T- and B-cell homing but also in inducing the differentiation of IgA B cells and foxp3+ regulatory T cells from naive precursors. In this Commentary, Warren Strober discusses the importance of these recent studies in the broader context of mucosal immunity. [See page 92](#)

Homing of IgA B cells

The first issue of *Mucosal Immunology* highlighted both historical and novel aspects of IgA-related immunity. In this issue, Rodrigo Mora and Ulrich von Andrian review the factors driving IgA B-cell homing and describe how the differentiation process for cells destined to home to the small bowel is driven by gut dendritic cells, which imprint the expression of $\alpha 4\beta 7$ and CCR9 in a process that is dependent on retinoic acid, and possibly TGF- β . [See page 96](#)



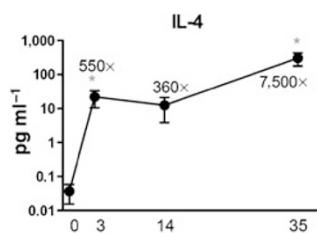
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IL-21 in intestinal inflammation

In this review, Thomas MacDonald and colleagues discuss recent studies indicating an essential role for IL-21, a new member of the common γ -chain dependent cytokine family, in driving Th17-cell differentiation as well as in sustaining Th1 responses, recruiting T cells, and eliciting protease secretion from gut fibroblasts during intestinal inflammation. [See page 110](#)

Chlamydia trachomatis: a primary cause of STDs

Sexually transmitted diseases impose a major health and economic burden throughout the world, and one of the most common and increasingly prevalent infections is due to *Chlamydia trachomatis*. Here, Louise Hafner and colleagues review the epidemiology and immunopathogenesis of *C. trachomatis* infections and discuss chlamydia vaccine development. [See page 116](#)



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A new IBD gene

Philippe Goyette and colleagues use a gene-centric association mapping approach and subsequent SNP analysis of candidates to reveal macrophage-stimulating 1 as an IBD susceptibility gene, implicating a role for macrophages in maintaining balanced intestinal homeostasis. [See page 131](#)

IL-4 and amebic colitis

In this issue, Xiaoti Guo and colleagues describe a novel mouse model of chronic amebic colitis and demonstrate opposing roles for IL-4 and IFN- γ in disease susceptibility and pathogen clearance. This article breaks new ground in the understanding of immunity to intestinal amebiasis and provides a new model for future studies. [See page 139](#)

Mast cell cytokines prove critical

Michelle Ierna and coworkers report here that mast cells from TNF- and IL-4-competent mice are sufficient to drive protection from the pathology associated with helminth infections, whereas mast cells from mice deficient for either TNF or IL-4 are unable to provide such protection. These adoptive transfer studies implicate mast cell function—and mast cell-derived cytokines in particular—as the critical factor(s) conferring protection from infection. [See page 147](#)

TLRs and PARs in fungal infection

During the acute stage of many fungal infections, oxidants and proteases released by neutrophils are essential for pathogen eradication but may also be responsible for tissue injury and fungal sepsis. Utilizing an array of *in vitro* and *in vivo* approaches, Silvia Moretti and colleagues dissect the role of protease-activated receptors 1 and 2 in this important regulation during infections with fungal pathogens *Candida albicans* and *Aspergillus fumigatus*. [See page 156](#)