

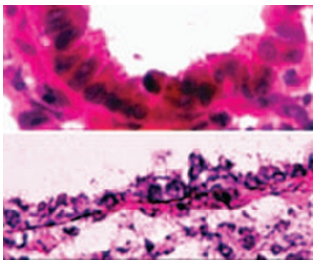
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Intestinal inflammasomes

Eran Elinav and colleagues provide an insightful discussion of the role of inflammasomes in intestinal homeostasis, host defense and tumorigenesis as well as the mechanisms by which these pathways integrate with other innate signals. [See page 4](#)

Resident mucosal T cells

Linda Cauley and Leo Lefrançois adeptly discuss the generation and function of specialized populations of memory T cells that reside within mucosal tissues of the lung and intestine and provide essential protection against invading pathogens. [See page 14](#)



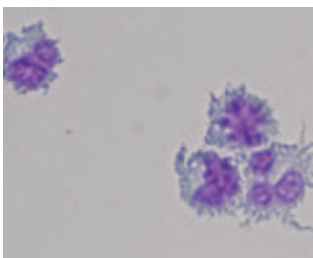
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Eye drops and tolerance

Jeremías Galletti and coauthors demonstrate that benzalkonium chloride, the eye drop preservative, prevents the induction of interleukin-10-producing regulatory T cells in response to ocular antigen challenge. [See page 24](#)

Human MAIT cells

Marielle Gold and colleagues demonstrate that antigen-inexperienced human mucosal-associated invariant T (MAIT) cells display innate effector functions against pathogens such as *Mycobacterium tuberculosis* and also differentiate into memory cells in the periphery. [See page 35](#)



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HSV-1 recruits inflammatory monocytes

Christopher Conrady and co-workers provide evidence that interferon- α production in response to herpes simplex virus type 1 infection in the eye can drive the production of CCL2 and the recruitment of inflammatory monocytes that help control virus replication. [See page 45](#)

Mucosal memory to HSV-2

Kristy Roth and colleagues demonstrate that local immunization in the absence of secondary lymphoid organs can establish effective antiviral memory responses in the female genital tract. [See page 56](#)

NK cell-derived IL-22 in lung repair

Pawan Kumar and colleagues demonstrate an essential role for interleukin-22 derived from conventional natural killer cells in promoting lung epithelial cell regeneration following influenza virus infection. [See page 69](#)

TSLP and influenza infection

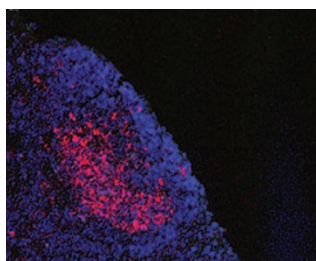
Koshika Yadava and colleagues provide evidence for a novel role of thymic stromal lymphopoietin (TSLP) in promoting viral clearance and virus-specific CD8⁺ T-cell responses in influenza A infection. [See page 83](#)

Intestinal CD8⁺ T cells after SIV immunization

Piya Sircar and colleagues demonstrate clonal divergence of virus-specific CD8⁺ T-cell responses in the intestine following systemic immunization for simian immunodeficiency virus (SIV). [See page 93](#)

Migration of CD103⁻ intestinal DCs

Vuk Cerovic and colleagues provide evidence for the migration of intestine-derived CD103⁻ CX3CR1^{int} dendritic cells that are responsive to Flt3 and efficiently prime and confer a gut-homing phenotype to naive T cells. [See page 104](#)



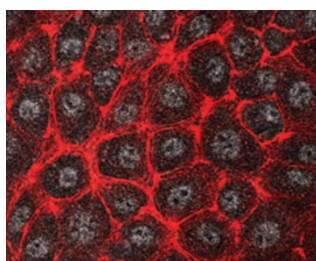
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TLR9 is essential for peanut allergy

Cecilia Berin and Wei Wang have identified an essential role for Toll-like receptor 9 (TLR9) in the development of immunoglobulin E-producing B cells in a mouse model of peanut-induced anaphylaxis. [See page 114](#)

Mechanisms underlying IgA B cell responses following oral vaccination

Peter Bergqvist and colleagues found that germinal centers in the Peyer's patches can be reutilized by antigen-activated B cells, following oral immunization. This allows for a synchronized, oligoclonal, and highly mature immunoglobulin A plasma cell response in the gut lamina propria. [See page 122](#)



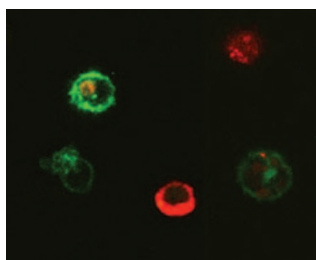
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CK2 and epithelial cell homeostasis

Stefan Koch and co-workers demonstrate that the protein kinase CK2 is a key regulator of homeostasis of the intestinal epithelium, acting in part through inhibition of epithelial cell apoptosis during inflammation. [See page 136](#)

IL-13 drives intestinal 5-HT production

Utilizing murine infection with *Trichuris muris* and *in vitro* studies of an enterochromaffin cell line, Marcus Manocha and colleagues provide data supporting a role for interleukin-13 in driving 5-hydroxy-tryptamine production from epithelial cells. [See page 146](#)



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DNA vaccination against influenza

Maytal Bivas-Benita and colleagues demonstrate that pulmonary vaccination with a plasmid DNA formulated with the polymer polyethyleimine successfully induces protective CD8⁺ T-cell responses against influenza and vaccinia virus challenges. [See page 156](#)

TGF- β induces miR-155 in T cells

Lopa Das and colleagues determined that TGF- β can induce the micro-RNA miR-155 in T cells, which may inhibit their production of interleukin-2 and inducible T-cell kinase. [See page 167](#)

CX3CR1⁺ cells and IL-22

Calin Manta and colleagues provide data supporting a role for CX3CR1⁺ cells in driving the production of interleukin-22 from lymphoid tissue-inducer cells in infection with *Citrobacter rodentium*. [See page 177](#)

MDSCs in the resolution of pneumonia

Stephanie Poe and co-workers demonstrate that myeloid-derived suppressor cells (MDSCs) contribute to the resolution of *Klebsiella* pneumonia in mice via their ability to clear apoptotic neutrophils, a process that depends on interleukin-10 and is suppressed by STAT-1 signaling. [See page 189](#)