

## Articles of Significant Interest Selected from This Issue by the Editors

### ***ALL2*, a Novel Gene, Has a Distinct Role in pH Regulation in *Cryptococcus neoformans***

*Cryptococcus neoformans*, a facultative intracellular fungal pathogen, causes life-threatening meningoencephalitis. Its capsule and ability to replicate in the acidic phagolysosome contribute to *C. neoformans* resilience in the host. Jain et al. previously reported that loss of allergen 1 (*ALL1*) results in a shorter viscous exopolysaccharide, hypervirulence, and altered iron homeostasis. This group now reports (p. 439–451) that loss of a coregulated gene, allergen 2 (*ALL2*), results in a less viscous exopolysaccharide, hypovirulence, and impaired intracellular pH maintenance, in contrast to the phenotypes resulting from loss of *ALL1*. Thus, *C. neoformans*, a human-pathogenic basidiomycete, may have evolved a unique set of virulence-associated genes that contribute to its resilience in the host.

### **Antimycobacterial Activities and Antigen-Presenting Functions of $\gamma\delta_2$ T Cells**

$\gamma\delta_2$  T cells comprise only 3% to 5% of total human peripheral blood lymphocytes, and yet they expand to large numbers after exposure to antigen. Abate et al. (p. 580–589) describe the ability of a  $\gamma\delta_2$  T cell line to inhibit intracellular mycobacteria and enhance  $\alpha\beta$  T cell responses. Mycobacterium-specific  $\gamma\delta_2$  T cells potently inhibit intracellular mycobacteria in a pathogen-specific manner.  $\gamma\delta_2$  T cells also enhance the expansion and direct antimycobacterial activities of  $\alpha\beta$  T cells through CD40-CD40 ligand interactions. In contrast with previous reports, this group demonstrates that both  $\gamma\delta_2$  T cells and CD4<sup>+</sup>  $\alpha\beta$  T cells provide potent immune-enhancing/antigen-presenting cell functions.