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Articles of Significant Interest in This Issue

A Novel Murine Model of Enteropathogenic *Escherichia coli* Infection Reveals Shiga Toxin 2 Sabotages Intestinal Host Defenses

Prolonged exposure to the Shiga toxins from Shiga toxin-producing *Escherichia coli* (STEC) is a global cause of bloody diarrhea with acute renal injury. Using a novel murine model, Hall et al. (e00530-18) provide evidence that Shiga toxin 2 selectively disrupts the host's colonic interleukin-23 defenses and that this corresponds to prolonged bacterial colonization and renal injury. Pretreatment of immunocompetent mice with dextran sulfate sodium (DSS) provided a niche for intestinal colonization of clinical STEC strains in otherwise resistant mice. The new DSS-STEC murine model will facilitate study of relationships between STEC virulence factors and host defenses with established and newly emerging pathogenic strains.

Glucan-Chitin Particles Enhance Protective Efficacy of a Multivalent Vaccine against Pulmonary *Coccidioides posadasii* Infection

There is no licensed vaccine against Valley fever, a fungal infection caused by *Coccidioides* spp. Hung et al. (e00070-18) report the development of an effective subunit vaccine (rCpa1) consisting of 3 full-length *Coccidioides* antigens and 5 peptides with high affinity for human major histocompatibility complex class II molecules. Five types of experimental adjuvants have been tested with rCpa1. Encapsulation of rCpa1 with glucan-chitin particles (GCPs) that are derived from the fungal cell wall as an adjuvant/delivery system improves protective efficacy for human HLA-DR4 transgenic mice against pulmonary *Coccidioides* infection. Enhanced protection is associated with elevation of Th17 immune response induced by GCPs.

Screening of Mouse and Human Immune Cells Identifies Th17 Antigens That Protect against *Streptococcus pneumoniae*

Streptococcus pneumoniae, or pneumococcus, is a Gram-positive bacterium that is a major cause of morbidity and mortality in infants, toddlers, and the elderly in both developed and developing countries. In addition to antibody-mediated protection, T cell-derived immunity is an important protective mechanism against *S. pneumoniae* infection. Lu et al. (e00490-18) compared human and mouse Th17 responses to individual proteins from a pneumococcal surface protein library and identified 16 new proteins that protect mice against pneumococcal colonization. While mouse and human immune cells had distinct responses to the proteins in the library, a combination of top-ranking antigens in both species predicted protection against pneumococcal colonization in mice.

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