Articles of Significant Interest Selected from This Issue by the Editors

A Putative Molecular Valve in Trypanosomes: the Real Flux Capacitor?

African trypanosomes (*Trypanosoma brucei*) dwell in the bloodstream of infected mammalian hosts in continuous exposure to the adaptive immune response. They rely on an extremely high rate of endocytosis in order to clear antibodies bound to the cell surface. However, endocytosis occurs at only a single point on the plasma membrane—an invagination containing the base of the flagellum, termed the flagellar pocket. Coiled around the neck of the flagellar pocket on its cytoplasmic face is a fishhook-shaped cytoskeletal complex containing the protein TbMORN1. Morriswood and Schmidt (p. 1081–1093) show that depletion of TbMORN1 results in a striking phenotype in which protein access to the flagellar pocket is apparently impaired, suggesting that the complex may function as a kind of molecular valve.

Aspergillus fumigatus Welcomes CRISPR Mutagenesis to Its Molecular Toolbox

Reverse genetics is the cornerstone approach for elucidating virulence traits in the fungal pathogen *Aspergillus fumigatus*. However, targeted gene replacement has been hindered by recombination rates as low as 5% in wild-type backgrounds. To bypass this problem, Fuller and Chen et al. (p. 1073–1080) have adapted the CRISPR/Cas9 system, originally derived from bacteria, for high-efficiency gene disruption in *A. fumigatus*. Upon introduction of the Cas9 endonuclease and a guide RNA directed toward a pigment biosynthetic gene (*pksP*), the authors observe the expected albino phenotype and genomic alteration in over 50% of transformants. The expression of Cas9 alone does not alter *A. fumigatus* virulence in a murine infection model, supporting the suitability of CRISPR strains in pathogenesis studies. The employment of CRISPR/Cas for single- or even multiple-locus targeting in *A. fumigatus* may significantly expedite genetic studies of this important pathogen.

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