Articles of Significant Interest Selected from This Issue by the Editors

High-Resolution Structural Studies Are Now Possible for the Hepatitis B Virus Polymerase

The human hepatitis B virus polymerase (hPOL) is central to viral replication and therefore a therapeutic target. The inability to produce large quantities of recombinant hPOL has impeded structural studies of this protein. Vörös et al. (p. 2584–2599) developed procedures to express high yields of soluble, active recombinant hPOL constructs in *Escherichia coli*. This advance enabled the first structural and biophysical characterizations of hPOL. The findings provide new insights into hPOL structure and function and may accelerate drug discovery for hepatitis B virus.

Recombinant Retrovirus with Mammalian *env* Gene Circulated among Songbirds

Retroviruses sometimes acquire heterologous *env* genes through recombination with distantly related retroviruses. Recombination can change the host range of a virus, affecting its evolutionary trajectory as it adapts to new hosts. Henzy et al. (p. 2398–2405) describe an endogenous retrovirus in the zebra finch that has features of avian retroviruses yet carries an *env* gene typical of mammalian retroviruses. This unusual recombinant appears to have been active several million years ago, infecting the ancestors of zebra finches and other songbird species. This study highlights a role for *env* recombination in forming new retroviral lineages and potentially mediating interclass transmission events.

Tobacco Mosaic Virus Movement Protein Topology Revisited

Plant virus infection and spread depends on association of virus-encoded movement proteins (MPs) with biological membranes. The precise interaction of the tobacco mosaic virus (TMV) MP with membranes is not clear. Peiró et al. (p. 3016–3026) show that TMV MP is tightly associated with the cell membrane, but neither of its domains spans the membrane or is translocated into the lumen. This work sheds light on host factors involved in the functionality of MPs and resistance to plant viruses.

A Genetic Connection between p53 and Cell Polarity PDZ Proteins

Cancer-associated human papillomavirus (HPV) E6 oncoproteins mediate degradation of p53 and also have a carboxy-terminal PDZ ligand. The E6 PDZ ligand interacts with certain cellular PDZ proteins including Discs Large and Scribble. When the E6 PDZ ligand is altered, the episomal HPV plasmid genome is lost from dividing cells. Brimer and Vande Pol (p. 3027–3030) found that the E6 PDZ ligand can be deleted without loss of the HPV genome if cellular p53 is inactivated. These results suggest that E6-PDZ interactions either are required to degrade residual p53 or give rise to a physiologic change that neutralizes residual undegraded p53.

Myofiber Infection by Chikungunya Virus Contributes to Increased Pathogenicity

Chikungunya virus (CHIKV) is a reemerging viral pathogen that induces severe disease manifestations in some patients. Using a murine model of CHIKV infection, Rohatgi et al. (p. 2414–2425) found that a viral clone derived from the La Reunion outbreak induces more severe disease compared with an earlier circulating strain of CHIKV. This increase in disease severity is due to the capacity of the La Reunion strain to gain access to the myofiber niche *in vivo*. This study suggests that the capacity to establish myofiber infection may contribute to increased disease severity.

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