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► **COVER:** 'Friend or foe?' by Tom Wilson, inspired by the Review on p634.


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The aim of antiviral agents is to prevent viruses from replicating. Viral replication is so intimately associated with the host cell, however, that any drug that interferes significantly with viral replication can also be toxic to the host cell. The first antiviral agent that was non-toxic enough to be used for patients with serious illness was acyclovir, which was introduced in the late 1970s. Although the search for more effective antiviral agents has advanced considerably since then, at present antiviral drugs are available for relatively few viral diseases. There is great need, therefore, for improved antiviral strategies.

On page 583, Jan Balzarini describes a new approach to antiviral therapy that involves targeting the glycans on viral-envelope glycoproteins with carbohydrate-binding agents (CBAs). CBAs have a dual mechanism of action that involves both direct antiviral activity by blocking viral entry, and indirect activity by triggering the immune system following glycan deletions that reveal immunogenic epitopes. This approach may also be extended to other pathogens, including parasites, bacteria and fungi.

Not all microorganisms are pathogens, however, and their interactions with the host can often be beneficial. Erin E. Herbert and Heidi Goodrich-Blair (page 634) discuss how the γ-proteobacterium *Xenorhabdus nematophila*, which is both a mutualist and a pathogen, can be used as a relevant and tractable tool to elucidate the molecular basis of microorganism–host interactions.

Volker Brinkmann and Arturo Zychlinsky return to the problem of the pathogen on page 577, by providing insights into the latest research on neutrophil extracellular traps. These traps consist of extracellular fibres formed by granule proteins and chromatin that are released by activated neutrophils, and function to kill microorganisms.

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