### SCIENCE'S COMPASS

entrance to the body can be through food, the mortality rate would only be 20%.

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## Prospects for an AIDS Vaccine

JON COHEN PRESENTS A BLEAK VIEW OF THE prospects for an AIDS vaccine in his article about the National Institutes of Health's decision not to fund a clinical trial of its leading candidate for such a vaccine ("Disappointing data scuttle plans for large-scale AIDS vaccine trial," News of the Week, 1 Mar., p. 1616). Disappointed lead investigators in the study comment that the immune correlate(s) of protection are a mystery that might have been elucidated by the trial and that we need to find out if vaccines work in humans, even if we do not know why.

We find this pessimism puzzling, because the prospects of achieving a safe and effective vaccine to control the AIDS epidemic are now quite encouraging (1, 2). Abundant published evidence indicates that readily attainable levels of cell-mediated immunity (CMI), although they do not prevent infection, can suppress viremia to undetectable levels within weeks after mucosal or intravenous challenge by heterologous virus strains, prevent loss of helper T cells, prevent progression to disease, and presumably prevent transmission of virus to uninfected subjects (3-6). These results have mainly been obtained with the rhesus monkey/SIV model of human HIV infection, and they are consistent with results from studies of scheduled treatment interruptions of highly active antiretroviral therapy (STI) in HIV-infected humans (7, 8). Effective levels of CMI have consistently been attained by parenteral administration of a prime/boost regimen involving naked DNA followed by replication-defective recombinant modified vaccinia virus Ankara or canarypox virus (9, 10). Recently, CMI responses to DNA have been increased 100fold by adsorption onto cationic microparticles, and additional recombinant viruses have been described, including a recombinant HIV that replicates only in the presence of the antibiotic doxycycline (thus, the reverse of STI) (11, 12).

Rather than viewing the scuttling of an AIDS vaccine trial as a setback, one could reasonably argue that all such vaccine trials should be reconsidered in light of the success of the prime/boost regimen in the rhesus/SIV model.

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References and Notes

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#### CORRECTIONS AND CLARIFICATIONS

**NEWS FOCUS:** "MgB<sub>2</sub> trades performance for a shot at the real world" by R. Service (1 Feb., p. 786). The standard measure used to express the cost of transmitting current over a meter had incorrectly appeared as dollars per kA/m. The correct expression is dollars/(kA m).

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