In the news

TACKLING EBOLA

Researchers at the US National Institutes of Health and GlaxoSmithKline have developed a vaccine that provides long-term protection against Ebola virus infection in macaques (*Nature Medicine*, 7 Sep 2014). Phase I clinical trials of the vaccine have just begun in humans — if proven to be safe, it will be offered to high-risk healthcare workers in West Africa.

Long-term immunity in monkeys was achieved following a prime–boost vaccine regimen. Animals were first inoculated with a chimpanzee-derived adenovirus encoding Ebola virus glycoprotein; 8 weeks later, they received a modified vaccinia Ankara virus vector encoding the same glycoprotein. Anthony Fauci, Director of the US National Institute of Allergy and Infectious Diseases, said: "The good part of this vaccine is that at 5 weeks or earlier you get full protection" (BBC News, 7 Sep 2014). Long-term protection (after 10 months) required the booster vaccination and correlated with greater induction of effector and memory $CD8^+$ T cells (*Nature Medicine*).

The World Health Organization has said that more than 20,000 people could become infected before the current outbreak is controlled. It has called for drug companies and regulatory agencies to cooperate to accelerate the development of antiviral strategies (*Reuters*, 4 Sep 2014). Indeed, two other vaccines — being developed by NewLink Genetics and the Canadian Government, and by Johnson&Johnson — are expected to soon progress to clinical trials (*Reuters*). Also, an experimental therapy known as ZMapp — a cocktail of Ebola virus-specific monoclonal antibodies made by Mapp Biopharmaceutical — has already been given to several infected healthcare workers, despite not formally being tested for safety in humans. The recent report of successful treatment of infected macaques with ZMapp, even when given up to 5 days after infection, shows promise for tackling Ebola virus in humans (*Nature*, 29 Aug 2014).

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