

## Adjuvant boosts H5N1 influenza vaccine immunogenicity

Adjuvantation may reduce the amount of antigen required to illicit an immune response to a recombinant influenza A virus H5N1 vaccine,\* and induce cross-clade immunity against A/H5N1 viruses, according to researchers from Belgium.<sup>1</sup>

Data were evaluated for eight groups of 50 volunteers who received two doses of monovalent A/H5N1, inactivated, split-virion influenza vaccine, administered 21 days apart; the vaccine was administered at doses of 3.8µg, 7.5µg, 15µg or 30µg haemagglutinin, with or without an oil-in-water based emulsion adjuvant.\*\*

Adjuvanted-vaccine recipients demonstrated significantly greater humoral immune responses than nonadjuvanted-vaccine recipients, at all antigen doses. Moreover, seroconversion and seroprotection rates were significantly higher among the adjuvanted-vaccine dose groups than among the corresponding nonadjuvanted-vaccine dose groups, after each vaccine dose. Following the second dose, the adjuvanted vaccine met US FDA and CHMP criteria for seroconversion and seroprotection rates at all dose levels; however, among the nonadjuvanted vaccine groups, only the 30µg formulation complied with CHMP criterion for seroconversion rate. Furthermore, after the first dose, adjuvanted-vaccine recipients demonstrated seroconversion rates of 27%–54% against a strain derived from a drifted H5N1 isolate; this response increased to 67%–77% following the second dose.

In an editorial accompanying the study, Suryaprakash Sambhara from the Centers for Disease Control and Prevention, Georgia, and Gregory A Poland from the Mayo Clinic and Foundation, Minnesota, US, contend that this study "is the first to show significant antigen dose-sparing, high levels of immunogenicity in association with a novel adjuvant, and the induction of cross-clade immunity against A/H5N1 viruses".<sup>2</sup>

\* GlaxoSmithKline; preregistration in the EU, phase I/II in the US

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1. Leroux-Roels I, et al. Antigen sparing and cross-reactive immunity with an adjuvanted rH5N1 prototype pandemic influenza vaccine: a randomised controlled trial. *Lancet* 370: 580-589, No. 9587, 18 Aug 2007.

2. Sambhara S, et al. Breaking the immunogenicity barrier of bird flu vaccines. *Lancet* 370: 544-545, No. 9587, 18 Aug 2007.