

## Strategies for generation of broadly cross-neutralising anti-influenza vaccine responses

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Increasing evidence points to the importance of broadly cross-neutralizing anti-influenza responses in providing protection against pandemic strains but current seasonal influenza vaccines are poorly effective at generating such responses. Our group has been exploring techniques to enhance broadly cross-neutralizing anti-influenza responses that involve use of novel recombinant influenza antigens adjuvants (FluBlok™, Protein Sciences Corporation) together with novel adjuvant technology (Advax™, Vaxine Pty Ltd). This novel approach has already been advanced to the clinic and has shown promising results in its ability to modulate both anti-influenza B- and T-cell responses, in the process inducing changes in plasmablast and memory B-cell frequency, immunoglobulin subtype and B-cell receptor usage. The significance of these changes is still being explored in animal challenge models, but suggests that these new approaches to influenza vaccine design may one day enable production of a universal influenza vaccine that no longer needs to be administered on an annual basis to at risk individuals. Such vaccines could be major life savers in the event of a future pandemic involving H5N1, H7N9 or some other new serotype of avian influenza.

### Biography

Nikolai Petrovsky MBBS, FRACP, Ph.D. is an active hospital clinician, research professor at Flinders Medical Centre, Adelaide Australia and research director of Vaxine, an Australian vaccine development company. He is Secretary-General of the International Immunomics Society and has received major funding from the US National Institutes of Health to develop novel biodefense vaccines and adjuvants. He has won prestigious awards including the AMP Innovation Award at the 2009 Telstra Business Awards and an Ernst & Young Entrepreneur of the Year in 2010. He has taken four vaccines to the clinic and has authored over 100 scientific papers and book chapters.

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