Enhancing Immune Responses by Targeting Antigens to Clec9A on Dendritic Cells

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Abstract
Targeting vaccine antigens to particular subtypes of dendritic cells (DC), by injecting antigens coupled to antibodies recognizing DC surface molecules, is a promising approach to enhancing the effectiveness of vaccines. One particularly effective target is Clec9A (also called DNGR1) on the surface of the CD8-bearing subset of mouse DCs and on the equivalent human DC population. Targeting model antigens to Clec9A produces high and persistent antibody responses even in the absence of adjuvants or signs of DC activation. The basis of this response will be discussed along with the prospects of using this approach for vaccines of human application.

About our speaker…
Professor Shortman obtained his PhD in biochemistry with G. Ada and F. M. Burnet at the Walter and Eliza Hall Institute (WEHI). He had post-doctoral training in France (Gif-Sur-Yvette, with Slonimsky) and USA (Stanford, with Lehman and Kornberg). He then returned to WEHI, where his research successively involved the biophysics of cell separation procedures, the pathways of development of B and T lymphocytes, then over the past 10 years the function and development of dendritic cells. His long career at WEHI has been refreshed by several sabbatical periods in France and Switzerland. He is Research Professor of Developmental Immunology at the University of Melbourne and recently retired as Head of the Immunology Division at WEHI, to continue basic research. He is a Fellow of the Australian Academy of Science.