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JAPAN: nature@naturejpn.com
Rinoko Asami, Nature Japan KK
Tel: +81 3 3267 8751; Fax: +81 3 3267 8746

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Many key decisions in the immune system are driven by the activities of transcription factors. How these factors are regulated and how they interact are the subject of much ongoing research. In this issue, three articles focus on some of the most important transcription factors involved in lymphocyte development. On page 497, Patrick Matthias and Antonius Rolink describe the transcriptional networks that instruct each step in B-cell development — from the initial commitment of haematopoietic stem cells to lymphocyte progenitors through to the maturation of B cells in the periphery. On page 472, Fernando Macian focuses on the role of the NFAT (nuclear factor of activated T cells) family in the regulation of thymocyte development, as well as in the differentiation and function of T cells, which is mediated largely through the ability of NFAT proteins to integrate calcium-signalling pathways with other signalling pathways. And Ulrich Siebenlist and colleagues (page 435) describe how nuclear factor-κB, which is known to be crucial for rapid responses to stress and pathogens, is also extensively involved in the development of both T and B cells — in particular by ensuring lymphocyte survival at the various developmental stages.

Elsewhere in this issue, two articles bring to the fore some underappreciated players in immune responses: namely, the CD1 family of MHC-class-I-like molecules and the MHC class Ib molecules H2–M3, Qa1 and HLA-E. Gennaro De Libero and Lucia Mori (page 485) describe how T-cell responses specific for CD1-bound lipid antigens might be more important in infection and disease than was previously thought. And John Rodgers and Richard Cook (page 459) discuss the emerging concept that peptide presentation by MHC class Ib molecules bridges innate and acquired immunity.


Elaine Bell


Kirsty Minton


Karen Honey


Lucy Bird