

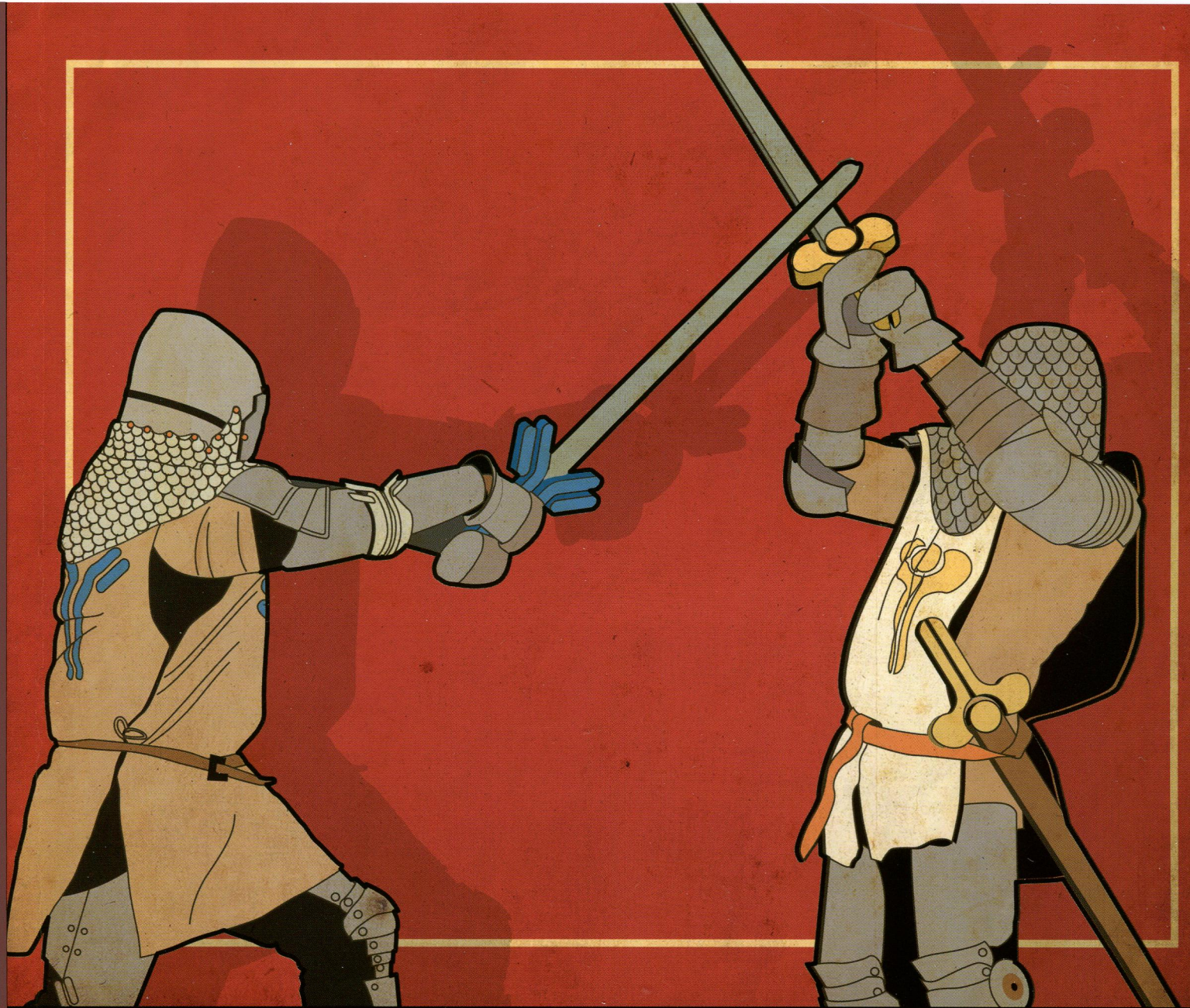
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Nature

REVIEWS

february 2014 volume 14 no. 2
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IMMUNOLOGY



EN GARDE!

Duelling receptor systems control
B cell development

Alveolar macrophages

Innate immune cells form an
air force to be reckoned with



The bells Toll for Toxo p109

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69 Orchestrating B cell lymphopoiesis through interplay of IL-7 receptor and pre-B cell receptor signalling

Marcus R. Clark, Malay Mandal, Kyoko Ochiai and Harinder Singh

Developing B cells that have successfully expressed a pre-B cell receptor (pre-BCR) undergo clonal expansion, but must exit the cell cycle before rearranging their immunoglobulin light chain loci. The authors discuss how signalling through the interleukin-7 receptor and BCR is coordinated in a mutually exclusive manner to ensure the production of mature B cells without risking leukaemic transformation.

81 Alveolar macrophages: plasticity in a tissue-specific context

FEATURED ARTICLE

Tracy Hussell and Thomas J. Bell

In this Review, the authors describe the unique molecular and functional features of alveolar macrophages that distinguish these cells from other macrophage populations. They discuss how alveolar macrophages are able to shape both pro-inflammatory and tolerogenic immune responses in the lung in order to maintain health at this site.

94 The function of Fcγ receptors in dendritic cells and macrophages

Martin Guilliams, Pierre Bruhns, Yvan Saeys, Hamida Hammad and Bart N. Lambrecht

Here, the authors review the expression patterns and function of Fc receptors for IgG (FcγRs) on conventional dendritic cells (DCs), monocyte-derived DCs, plasmacytoid DCs and macrophages in the steady state and at sites of inflammation. They also discuss emerging concepts and areas that require further investigation.

109 Innate immunity to *Toxoplasma gondii* infection

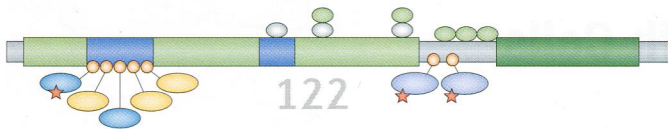
Felix Yarovinsky

Much research into *Toxoplasma gondii* infection has concentrated on adaptive T helper 1 cell responses. More recently, scientists have focused on the innate immune pathways that enable control of *T. gondii* infection. This Review compares the innate immune response to *T. gondii* in mice and humans, with a particular focus on Toll-like receptor-dependent pathways.

122 The roles of Pellino E3 ubiquitin ligases in immunity

Paul N. Moynagh

Ubiquitylation is an important regulatory process that controls numerous signalling pathways, including those that drive immune responses. As described in this Review, Pellino proteins are E3 ubiquitin ligases that regulate both innate and adaptive immune signalling pathways.



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Adrian Liston and Daniel H. D. Gray

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Ivan K. H. Poon, Christopher D. Lucas, Adriano G. Rossi and Kodi S. Ravichandran

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Key points provides a bullet-pointed summary of the main topics covered in each article.

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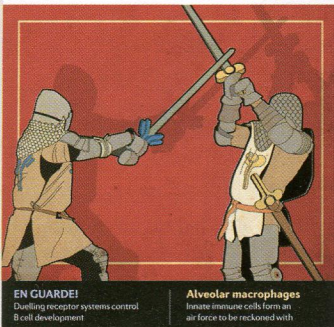


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REVIEWS

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► **COVER:** 'Knight fight' by Simon Bradbrook, inspired by the Review on p69.



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