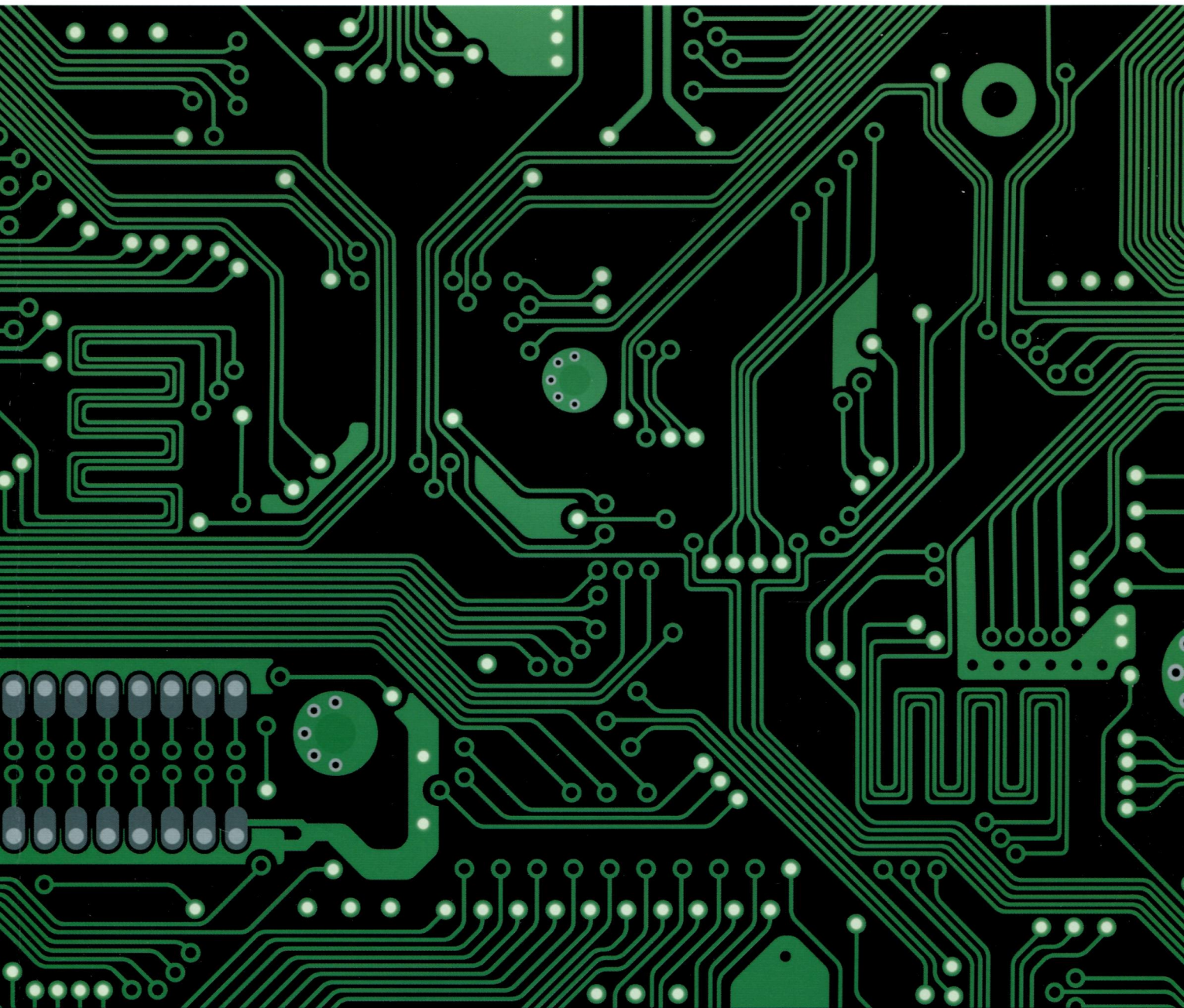


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REVIEWS

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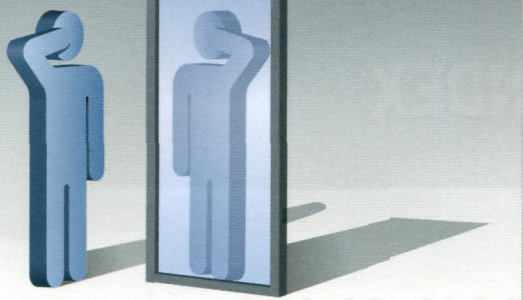


HEIGHTENED SECURITY

The new intracellular PRRs that complement the old guard

Tiny tools for immunology

Immunological applications of nanotechnology



Respect your self p566

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REVIEWS

551 Newly described pattern recognition receptors team up against intracellular pathogens

Petr Broz and Denise M. Monack

This Review provides a comprehensive overview of very recent progress in our understanding of the role of pattern recognition receptors, including Toll-like receptors, cytosolic nucleic acid receptors and NOD-like receptors that assemble inflammasomes, in the detection of and in the defence against intracellular pathogens.

566 The role of dendritic cells in autoimmunity

FEATURED ARTICLE

Dipyaman Ganguly, Stefan Haak, Vanja Sisirak and Boris Reizis

Dendritic cells (DCs) can promote both tolerogenic and pro-inflammatory immune responses and have been associated with various autoimmune diseases. However, it still remains unclear whether these cells have beneficial or detrimental functions in these settings. In this Review, the authors discuss the current understanding of the roles of distinct DC subsets in autoimmunity.

578 New insights into pre-BCR and BCR signalling with relevance to B cell malignancies

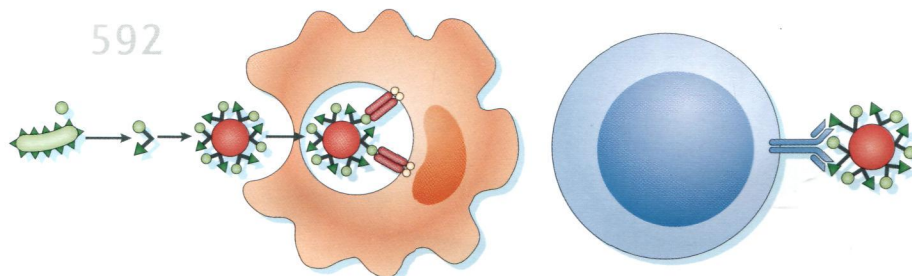
Robert C. Rickert

The key signalling pathways that lie downstream of the pre-B cell receptor (BCR) and the BCR are discussed in terms of their contribution to B cell homeostasis and neoplasia, with a focus on the emerging distinctions between tonic and chronic active signalling.

592 Applications of nanotechnology for immunology

Douglas M. Smith, Jakub K. Simon and James R. Baker Jr

This Review describes the different types of nanotechnologies that can be used to target the immune system. The authors explain how the unique properties of different nanostructures can be used to either enhance or to suppress immune responses, and they discuss the promise of these strategies for developing more effective immunotherapies.



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Joshua D. Milner & Steven M. Holland

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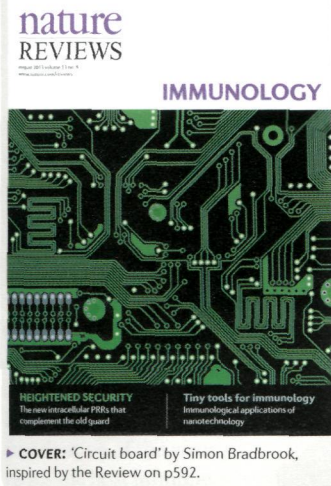
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- 544 IMMUNOGENETICS Serving up variation to fight adversity
CYTOKINES True to their family name
- 545 INFLAMMASOME Fishing for anti-inflammatory mechanisms
- 546 T CELLS Maintaining T cell homeostasis
REGULATORY T CELLS Distilling regulatory T cell inducers
- 547 VIRAL IMMUNITY Arms convoy
- 548 IN BRIEF Inflammasome | Osteoimmunology | T cell memory
IMMUNODEFICIENCY Magnesium regulates antiviral immunity
B CELL TOLERANCE STALLing B cell responses
- 549 IN BRIEF Monocytes | NK cell responses | Macrophages

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OPINION

- 607 **Type 2 immunity and wound healing: evolutionary refinement of adaptive immunity by helminths**

William C. Gause, Thomas A. Wynn and Judith E. Allen

In this Opinion, the authors provide their perspective on how the type 2 immune response may have evolved and how it functions to mediate both resistance and tolerance to tissue-destructive helminths. They propose that the damage induced during helminth migration and the subsequent need for tissue repair have been major factors in driving the evolution of the type 2 response.

- 614 **Recognition of herpesviruses by the innate immune system (erratum)**

Søren R. Paludan, Andrew G. Bowie, Kristy A. Horan & Katherine A. Fitzgerald

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