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# Nature REVIEWS

september 2014 volume 14 no. 9  
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## IMMUNOLOGY

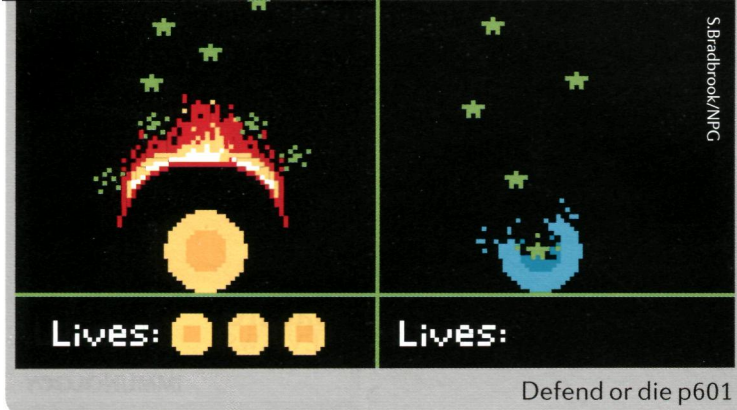


### THE T CELL SPECTRUM

Which T cells should we target in the clinic?

### Adaptive instructors

How T cells amplify and instruct local innate lymphocytes



Defend or die p601

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## REVIEWS

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FEATURED ARTICLE

### The IL-23–IL-17 immune axis: from mechanisms to therapeutic testing

*Sarah L. Gaffen, Renu Jain, Abhishek V. Garg and Daniel J. Cua*

T helper 17 (T<sub>H</sub>17) cells promote protective immune responses against infection, particularly at barrier sites, but they can also have pathogenic roles in inflammatory diseases. In this Review, the authors describe the factors that control the development and maintenance of T<sub>H</sub>17 cells, and discuss their diverse functions in both health and disease.

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### A long-awaited merger of the pathways mediating host defence and programmed cell death

*J. Magarian Blander*

There is a growing appreciation of how the host inflammatory response is intricately entwined with the various forms of programmed cell death. This Review discusses the signalling mechanisms that link these processes, with a particular focus on how the key mediators of cell death, such as the caspases, are integrated into innate signalling modules.

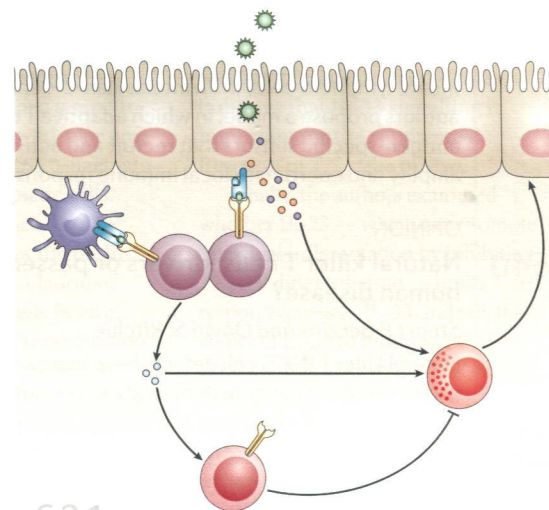
## ANALYSIS

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### Phenotypic models of T cell activation

*Melissa Lever, Philip K. Maini, P. Anton van der Merwe and Omer Dushek*

There is currently no single model that fits the wealth of experimental data that relate T cell activation to T cell receptor–peptide–MHC binding parameters. Here, the authors analyse and reformulate the published models, and suggest that a kinetic proofreading model that involves limited T cell receptor signalling provides the best fit.



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Lymphocyte fate specification as a deterministic but highly plastic process

*Steven L. Reiner and William C. Adams*

Dendritic cell-targeted vaccines — hope or hype?

*Wolfgang Kastenmüller, Kathrin Kastenmüller, Christian Kurts and Robert A. Seder*

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- INFLAMMASOMES New LPS receptors discovered
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## PERSPECTIVES

### OPINION

#### 631 Interactions between innate and adaptive lymphocytes

*Georg Gasteiger and Alexander Y. Rudensky*

Recent evidence indicates that adaptive T cell-mediated immune responses can regulate innate lymphocytes (natural killer cells and innate lymphoid cells) in an interleukin-2-dependent manner. The authors propose a model in which adaptive T cells function as peripheral antigen-specific sensors that recruit and activate innate lymphocytes to amplify and coordinate local immune responses.

### OPINION

#### 640 Natural killer T cells: drivers or passengers in preventing human disease?

*Stuart P. Berzins and David S. Ritchie*

Natural killer T (NKT) cell defects have been implicated in several diseases such as autoimmunity, asthma and cancer, but will targeting them really be of clinical benefit? Here, the authors investigate this question and conclude that more careful studies are needed before the true clinical potential of NKT cell-targeted therapies can be determined.



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