

nature

REVIEWS

december 2013 volume 13 no. 12
www.nature.com/reviews

IMMUNOLOGY

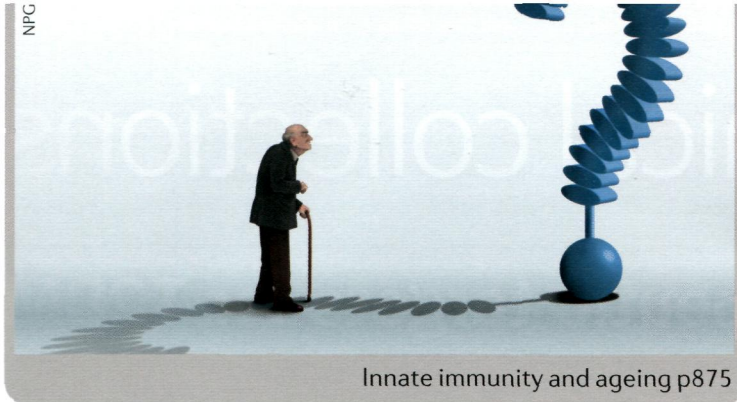


WILD IMMUNOLOGY

Studying zoonotic infections in natural reservoir hosts

Immunosuppression in sepsis

New therapeutic strategies for treating prolonged sepsis?



Innate immunity and ageing p875

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851 Studying immunity to zoonotic diseases in the natural host — keeping it real

Andrew G. D. Bean, Michelle L. Baker, Cameron R. Stewart, Christopher Cowled, Celine Deffrasnes, Lin-Fa Wang and John W. Lowenthal

Immunology is traditionally viewed as a science of 'mice and men'. However, key insights can come from the study of immune responses in livestock or wild animals. The fact that the most deadly pathogens of humans are often zoonotic in nature lends further weight to the importance of this research. The authors discuss the benefits of, and challenges posed by, these studies.

862 Sepsis-induced immunosuppression: from cellular dysfunctions to immunotherapy

FEATURED ARTICLE

Richard S. Hotchkiss, Guillaume Monneret and Didier Payen

Sepsis is the host inflammatory response to severe, life-threatening infection with the presence of organ dysfunction, and is the most frequent cause of mortality in most intensive care units. Here, the authors argue that, following survival of the initial hyper-inflammatory response, the patient enters a protracted immunosuppressive phase and, therefore, that immunotherapies to treat prolonged sepsis must target the specific cellular dysfunctions associated with immunosuppression.

875 Age-dependent dysregulation of innate immunity

Albert C. Shaw, Daniel R. Goldstein and Ruth R. Montgomery

Ageing is associated with impaired immune responses to pathogens and vaccines. As described in this Review, ageing results in disrupted regulation of immune cell functions and innate immune receptor signalling, and in the establishment of a persistent pro-inflammatory milieu. The authors explain how this age-associated dysregulation might contribute to chronic inflammatory diseases in the elderly.

888 The immunobiology of prion diseases

Adriano Aguzzi, Mario Nuvolone and Caihong Zhu

Prions are infectious proteins that cause fatal neurodegenerative diseases. The prion itself is a misfolded conformer of a normal host protein, which explains why it is difficult for the immune system to respond to it effectively. The authors explain how prions evade, and indeed exploit, immune components to spread to the central nervous system, and they discuss the immunotherapies that are being developed to combat these lethal infections.

On the web www.nature.com/reviews/immunol

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Donna L. Farber, Naomi A. Yudanin and Nicholas P. Restifo

Concepts of tissue injury and cell death in inflammation: a historical perspective
David Wallach, Tae-Bong Kang and Andrew Kovalenko

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Links to further information

The full text of articles includes author biographies, links to glossary terms and links to websites and databases with relevant information.

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

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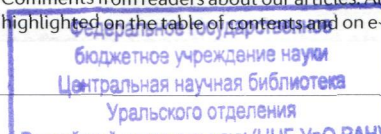
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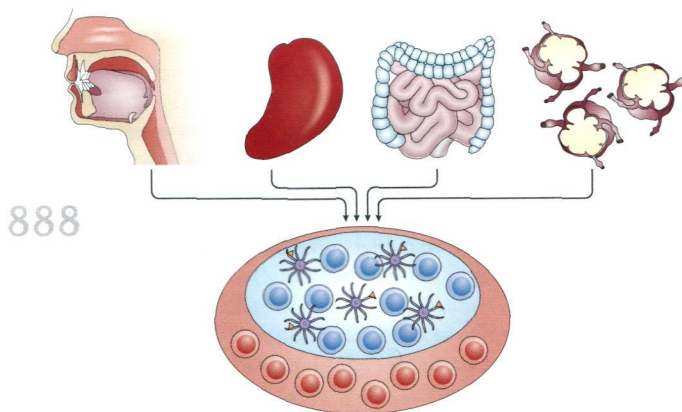
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Jennifer L. Stow

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