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REVIEWS

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IMMUNOLOGY

TRAVELLING T CELLS
Map reading cues from dendritic cells

Tumour immunology Series
Starting this month, look out for articles on this hot topic!

► COVER: 'Cell traffic' by Neil Smith; inspired by the Reviews on p659 and p682.



ELAINE BELL



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LUCY BIRD



OLIVE LEAVY



SHARON AHMAD

Most microorganisms that we routinely encounter are destroyed within minutes or hours, thanks to the innate immune system. In general, innate immune cells respond to inflammation-induced 'traffic' cues to receive signals for their activation. Leukocytes, in particular, are recruited to sites of tissue injury or infection through a multistep mechanism called extravasation. This process has been well studied, but some aspects have remained overlooked. As discussed by Christopher Parish on page 633, heparan sulphate proteoglycans have enormous sequence diversity and are now known to participate in almost every stage of leukocyte extravasation.

After immune cells have been activated, their responses are coordinated by intricate gene-regulatory networks. The interferon-regulatory factor (IRF) family of transcription factors has shown remarkable functional diversity in these networks and is crucial in immune responses that are triggered through pattern-recognition receptors (PRRs). In a Review on page 644, Kenya Honda and Tadatsugu Taniguchi discuss how IRFs function as master regulators of signalling by transmembrane and cytosolic PRRs.

This month, we also introduce an Article Series on Tumour immunology (<http://www.nature.com/nri/series/tumourimmunology>). In this Series, we will present articles that explore the mechanisms by which an immune response to tumours might be generated and maintained, how tumour cells escape detection and destruction by the immune system, and how this knowledge can lead to new therapeutic targets and treatments for cancer.

First in the Series, Alistair Cochran and colleagues (page 659) examine the immune modulation of the sentinel lymph node — the first lymph node to receive lymph from a primary tumour — by tumour cells to facilitate metastases, and discuss new approaches to prevent and reverse this process.

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