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► **COVER:** 'Life through a lens' by Simon Bradbrook, inspired by the Review on p21.



LUCY BIRD



KIRSTY MINTON



OLIVE LEAVY



YVONNE BORDON

Lights! Camera! Action! Filming immune cells *in situ* has greatly advanced our understanding of their activation and migration. Similar to making a film, the type of camera (or in this case, microscope), the imaging and lighting techniques that are used and how 'the set' is constructed affect the quality of the images that are generated. The current imaging tools and techniques available to visualize lymphocyte activation are discussed in the Review on page 21, with a focus on the advantages and limitations of each of these methods.

But a film is nothing without the cast. Mouse innate-like B-1 cells, which produce most of the circulating natural IgM antibodies, are one of the 'players' in the immune system, and on page 34, Nicole Baumgarth describes their activation and functions in defence against mucosal pathogens and in tissue homeostasis. B-1 cells also secrete IgA in the intestinal mucosa, thereby regulating the local commensal microbiota.

This crosstalk between the immune system and the microbiota is the focus of the article by Maya Saleh and Giorgio Trinchieri (page 9). Not only has the immune system evolved mechanisms to protect the host from the potential threat of commensal microorganisms, but recent evidence has also shown that innate immune responses to the microbiota are required to maintain intestinal homeostasis and immune tolerance. Disruption of these innate immune responses can result in colitis and colitis-associated colorectal cancer, and the signalling pathways involved are discussed.

Finally, we zoom in on the cast of natural killer (NK) cells present in humans. A Poster by Eric Vivier and Sophie Ugolini that depicts the key receptors that regulate these cells and their role in immune responses to infected or abnormal cells is freely available at <http://www.nature.com/nri/posters/nkcells/index>, thanks to support from StemCell Technologies.

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