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OLIVE LEAVY



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The cover of this month's issue is inspired by Geneviève de Saint Basile and colleagues who describe how cytotoxic immune cells generate and deliver cytotoxic granules to their targets (page 568). Such immune-mediated cytotoxicity is crucial for effective antitumour responses and, on page 554, Richard Flavell and colleagues discuss how drugs that target the anti-inflammatory cytokine transforming growth factor- β (TGF β) can promote the functions of cytotoxic killer cells, as well as other antitumour immune effector cells, in patients with cancer.

Charles Drake also focuses on tumour immunotherapies, concentrating specifically on prostate cancer, which attracted much media attention recently owing to the approval of the therapeutic cancer vaccine, sipuleucel-T, by the US Food and Drug Administration (page 580). Females, of course, do not have to worry about developing this particular type of cancer; on page 594, Claude Libert and colleagues discuss other benefits that come from having that extra X chromosome. They propose that X chromosome-mediated effects enhance pro-inflammatory immune responses, which explains why females are generally less susceptible than males to infectious agents. It's not all good news for the ladies, however, and X chromosome-mediated effects also explain why females are more susceptible to autoimmune diseases. On page 605, John Isaacs describes the future of therapy for one such female-dominated autoimmune disease, rheumatoid arthritis.

In the settings of both cancer and autoimmunity, a better understanding of the intricate operations of our immune system will be essential for developing new therapies. On page 543, Gary Litman, Jonathan Rast and Sebastian Fugmann take a step back in time, describing the evolution of the vertebrate immune system and explaining what we can learn from future research in this intriguing area.

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