IN BRIEF

ANTIBODY RESPONSES

FcRL4 and FcRL5 bind like the real thing

The binding of antibodies by Fc receptors promotes many effector immune responses, including phagocytosis and antibody-mediated cell cytotoxicity. The Fc receptor-like (FcRL) family comprises six proteins that are homologous to the high-affinity Fc receptor for IgG (FcγRI), but their ligands were unknown. This study has shown that human FcRL4 and FcRL5 (which are expressed by activated and memory B cells) are receptors for IgA and IgG, respectively. FcRL5 bound to all human IgG subtypes, showing the highest affinity for IgG1 and IgG2. As FcRL4 and FcRL5 recruit the inhibitory protein tyrosine phosphatase SHP1, they are likely to negatively regulate immune responses. Notably, FcRL4 is the first inhibitory receptor to be described for IgA. The authors suggest that blockade of FcRL4 and FcRL5 could be used in vaccines to augment immunity to pathogens or tumour cells.

ORIGINAL RESEARCH PAPER Wilson, T. J., Fuchs, A. & Colonna, M. Cutting edge: human FcRL4 and FcRL5 are receptors for IgA and IgG. *J. Immunol.* 9 Apr 2012 (doi:10.4049/jimmunol.1102651)

IMMUNOTHERAPY

Therapeutic targeting of IL-17 for psoriasis

Data from two Phase II double-blind, placebo-controlled clinical trials suggest that inhibition of interleukin-17 (IL-17) may be an effective and targeted therapy for psoriasis. The IL-17 receptor-specific antibody brodalumab (AMG 827; Amgen) and the IL-17A-specific monoclonal antibody ixekizumab (LY2439821; Eli Lilly) were given subcutaneously at a range of doses to patients with moderate-to-severe plaque psoriasis for 10 or 16 weeks, respectively. At week 12, at least 76% of patients who received the antibodies had an improvement of ≥75% in their psoriasis area-and-severity index (PASI) score (except for those who received the lowest drug dose). Treated patients had improved PASI scores as early as week 1, indicating that these antibodies have a rapid onset of action. Neutropenia of grade 2 or higher was reported in a very small percentage of patients (<2%), but neither trial was large enough or of long enough duration to assess uncommon adverse events.

ORIGINAL RESEARCH PAPERS Papp, K. A. *et al.* Brodalumab, an anti–interleukin-17–receptor antibody for psoriasis. *N. Engl. J. Med.* **366**, 1181–1189 (2012) | Leonardi, C. *et al.* Anti–interleukin-17 monoclonal antibody ixekizumab in chronic plaque psoriasis. *N. Engl. J. Med.* **366**, 1190–1199 (2012)

REGULATORY T CELLS

UBC13 helps T_{Reg} cells keep their cool

This study shows that expression of the K63-specific ubiquitin-conjugating enzyme UBC13 is necessary for regulatory T (T_{Reg}) cells to maintain their suppressive functions. Mice with a T_{Reg} cell-specific deletion of *Ubc13* developed multiorgan inflammation even though they had normal numbers of peripheral forkhead box P3 (FOXP3)$^+$ T_{Reg} cells. When the authors transferred UBC13-deficient T_{Reg} cells into lymphopenic mice, these cells upregulated effector-type cytokines, despite maintaining normal levels of FOXP3 expression. In response to T cell receptor activation, UBC13-deficient T_{Reg} cells were unable to signal via the IκB kinase (IKK) complex and showed decreased expression of interleukin-10 and suppressor of cytokine signalling 1 (SOCS1) compared with control T_{Reg} cells. The authors propose that UBC13 promotes T_{Reg} cell stability by dampening the sensitivity of these cells to pro-inflammatory signals in the environment.

ORIGINAL RESEARCH PAPER Chang, J.-H. *et al.* Ubc13 maintains the suppressive function of regulatory T cells and prevents their conversion into effector-like T cells. *Nature Immunol.* 8 Apr 2012 (doi:10.1038/ni.2267)