

Anti-CCR6 monoclonal antibody

THERAPEUTIC: Inflammation & Immunity

Product Type	Therapeutic monoclonal antibody
Indication / ROA	Autoimmune diseases (i.e. psoriasis, multiple sclerosis, rheumatoid arthritis, scleroderma, SLE)
Target / MoA	C-C chemokine receptor type 6 (CCR6); ablation of pathogenic immune cells expressing CCR6 (predominantly Th17/Th22) using a depleting antibody.
Development Stage	Lead optimization, efficacy demonstrated
Brief Description & Differentiation	<p>The chemokine receptor CCR6 is expressed by Th17, Th22, Tc17, $\gamma\delta$-T cells and group 3 innate lymphoid cells (ILC3). CCR6 is crucial in the migration of the immune cells during the course of certain inflammatory diseases. CCR6 is the only known receptor for CCL20, which is widely expressed including non-lymphoid tissue. Findings suggest that the CCR6-CCL20 axis is involved in multiple autoimmune diseases, both in human and mouse. Here we have developed highly potent antibodies against CCR6 with distinct functionalities (i.e. depleting or blocking).</p> <ul style="list-style-type: none"> • Selective targeting of immune cells expressing CCR6 (predominantly Th17 and Th22) using anti-CCR6 mAb is effective in several preclinical disease models. • Depletion of CCR6-expressing cells using anti-CCR6 depleting mAb is a much more effective approach than mere blockade of the target using anti-CCR6 blocking mAb. • A near complete removal of pathogenic immune cells by anti-CCR6 depleting mAbs enable an “immune system reset”.
Research Team	Prof Charles Mackay and Dr Remy Robert
Intellectual Property	Confidential Lead anti-human CCR6 mAb has not been disclosed and will be the subject of a new composition of matter patent application following further optimisation.
Key Publications	Robert <i>et al.</i> Essential role for CCR6 in certain inflammatory diseases demonstrated using specific antagonist and knock-in mice. <i>JCI Insight.</i> 2, 15: e94821 (2017).
Future	Demonstrate POC in multiple preclinical disease models. Progress to formal preclinical studies enabling human testing in phase 1a/b clinical trial.

➤ Key Data

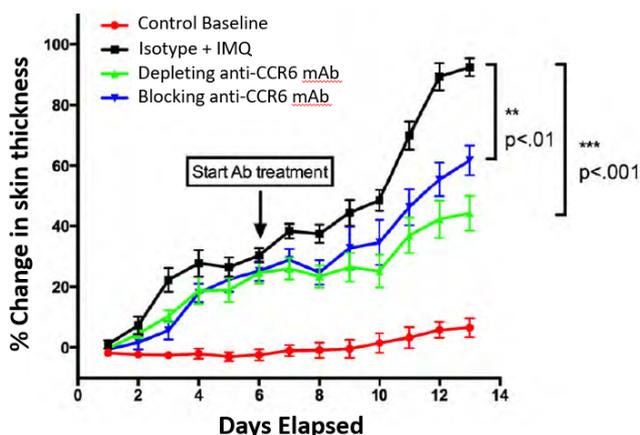


Figure 1. Depleting vs non-depleting anti-CCR6 mAbs in a therapeutic setting for IMQ-induced Psoriasis model.

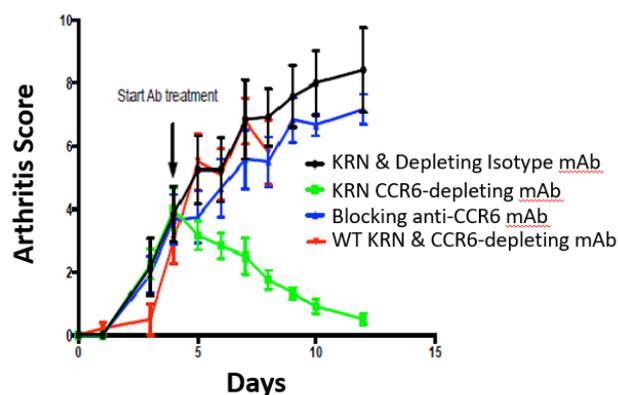


Figure 2. Depleting vs non-depleting anti-CCR6 mAbs in a therapeutic setting for Rheumatoid Arthritis (KRN) model.