The IL-17-Th1/Th17 pathway: an attractive target for lung cancer therapy?

Markus Joerger, Stephen P Finn, Sinead Cuffe, Annette T Byrne & Steven G Gray

INTRODUCTION
There is strong pharmaceutical development of agents targeting the IL-17-Th17 pathway for the treatment of psoriasis (Ps) and psoriatic arthritis (PsA). Lung cancer accounts for 28% of all cancer-related deaths worldwide, and roughly 80% of patients with newly-diagnosed non-small cell lung cancer (NSCLC) present with metastatic disease, with a poor prognosis of around 12 months. Therefore, there is a high unmet medical need for the development of new and potent systemic treatments in this deadly disease. The emergence of immunotherapies such as anti-PD-1 or anti-PDL1 as candidate therapies in non-small cell lung cancer (NSCLC) indicates that targeting critical immunomodulatory cytokines including those within the IL-17-Th1/Th17 axis may have proven benefit in the treatment of lung cancer. Areas covered: In this review we describe the current evidence for aberrant IL-17-Th1/Th17 settings in cancer, particularly with regard to targeting this axis in NSCLC. We further discuss the current agents under pharmaceutical development which could potentially target this axis, and discuss the current limitations and areas of concern regarding the use of these in lung cancer. Expert opinion: Current evidence suggests that moving forward agents targeting the IL-17-Th1/Th17 pathway may have novel new oncoimmunology indications in the treatment paradigm for NSCLC.