Host-Virus Interactions in Asthma and Chronic Obstructive Pulmonary Disease | Christopher McCrae

Christopher McCrae is a Team Leader and Principal Scientist in the Bioscience Department, IMED Respiratory Inflammation and Autoimmunity (RIA), AstraZeneca Gothenburg, Sweden. Since graduating in 1999 with a BSc (Hons) in Molecular and Cellular Pathology from the University of Glasgow, UK, he has worked in various roles in drug discovery and early clinical phase drug development in the respiratory field at AstraZeneca in the UK and Sweden. He is an experienced translational science and biology lead on drug discovery and development programs. In addition, throughout his time at AstraZeneca he has conducted research to identify and validate novel targets and mechanisms involved lung host defense in asthma and chronic obstructive pulmonary disease (COPD), and has led several industry-academic collaborations in this area. He has recently accepted a position in MedImmune, Gaithersburg, USA as Principal Scientist in Translational Medicine, RIA, starting in late 2018.

Christopher's long-standing research interest has been to investigate respiratory virus-host interactions in the airway epithelium and how those interactions determine risk of asthma and COPD exacerbations. In his doctoral thesis, he has identified and evaluated novel potential targets for the prevention of virus-triggered exacerbations. Through functional genomic screening in rhinovirus-infected bronchial epithelial cells, he discovered an anti-viral effect of inhibiting lanosterol synthase, a component of the cholesterol biosynthetic pathway. In a phase 2 trial of inhaled inferferon ß-1a, he identified potential responder subgroups within the study cohort. Finally, in a Chinese cohort of COPD patients he demonstrated that levels of the anti-microbial peptide, beta defensin-2, are reduced in the airways of patients at risk of exacerbations as well as during viral exacerbations.
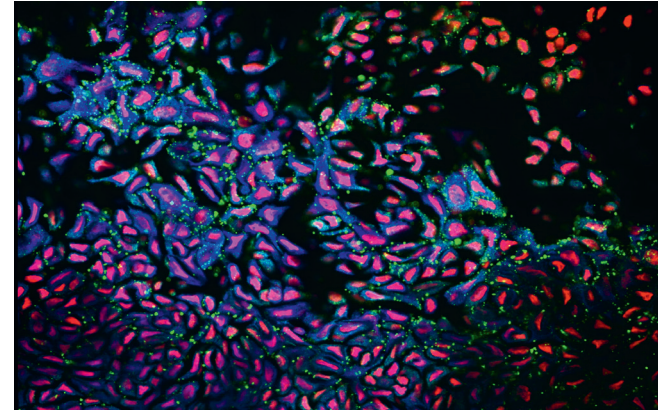
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INSTITUTE OF MEDICINE**

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