



# The discovAIR project: a roadmap towards the Human Lung Cell Atlas

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Shareable abstract (@ERSpublications)

The discovAIR project contributes to the Human Cell Atlas Lung Biological Network by establishing a first draft of the Human Lung Cell Atlas, advancing our insight into the cellular complexity and spatial organisation of the lung in health and disease <https://bit.ly/3zX4cad>

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## Abstract

The Human Cell Atlas (HCA) consortium aims to establish an atlas of all organs in the healthy human body at single-cell resolution to increase our understanding of basic biological processes that govern development, physiology and anatomy, and to accelerate diagnosis and treatment of disease. The Lung Biological Network of the HCA aims to generate the Human Lung Cell Atlas as a reference for the cellular repertoire, molecular cell states and phenotypes, and cell–cell interactions that characterise normal lung homeostasis in healthy lung tissue. Such a reference atlas of the healthy human lung will facilitate mapping the changes in the cellular landscape in disease. The discovAIR project is one of six pilot actions for the HCA funded by the European Commission in the context of the H2020 framework programme.

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discovAIR aims to establish the first draft of an integrated Human Lung Cell Atlas, combining single-cell transcriptional and epigenetic profiling with spatially resolving techniques on matched tissue samples, as well as including a number of chronic and infectious diseases of the lung. The integrated Human Lung Cell Atlas will be available as a resource for the wider respiratory community, including basic and translational scientists, clinical medicine, and the private sector, as well as for patients with lung disease and the interested lay public. We anticipate that the Human Lung Cell Atlas will be the founding stone for a more detailed understanding of the pathogenesis of lung diseases, guiding the design of novel diagnostics and preventive or curative interventions.