

The quest for a CURE for asthma kicks-off

Many asthma patients have access to a better life thanks to a series of treatments that allow them to keep their disease under control, but their dream to get rid of asthma is not yet there. Despite the great advances in the understanding and phenotyping of different types of asthma, today there is no record of treatments able to cure asthma. But what if this complex disease requires out-of-the box thinking? So far no developments are recorded for new cures, which seem to require highly innovative studies.

For example, what if we try to cure asthma through virus therapies? By looking at the results of a previous EU-funded project ([PREDICTA](#)), researchers from the Universities of Manchester and Athens have detected viral microbial imbalance in children with asthma; at the same time, bacterial viruses (phages) seem to be reduced in asthmatic patients. A possible link may reveal the ability of phages to control bacterial populations and thus bacterial imbalances and inflammation.

The CURE project (funded by the EU programme [Horizon 2020](#)) proposes a phage therapy that could control the immune dysregulation of the disease and may eventually be able to cure it. To validate this hypothesis, the project consortium will investigate how phage addition impacts the ecology of the airways and will design appropriate interventions for further use in clinical trials.

The CURE project is coordinated by the University of Athens (NKUA) and involves several universities, -such as the University of Manchester (UMAN), the Lodz University (MUL) and the Umea University (UMEA)-, research centres -such as the Swiss Research Institute for High Altitude Climate and Medicine Davos (SIAF), Biomedical Research Foundation of the Academy of Athens (BRFAA) and the Giorgi Eliava Institute of Bacteriophagy, Microbiology and Virology (ELIAVA)-, two SMEs -Eliava Bio Preparations Ltd (ELIBIO) and Exelixis Research Management (EXEL)-, and one non-profit organisation, the European Federation of Allergy and Airways Diseases Patients' Associations (EFA).

The consortium gathers multidisciplinary expertise committed to join efforts and develop new knowledge towards a cure for asthma. The Universities of Athens and Lodz are responsible for the patient cohorts that will include children and adults with mild to moderate asthma. They will be in charge of creating the baseline sampling and establishing a baseline inflammatory profile.

BRFAA will investigate the effects of the different phage preparations on blood derived macrophage and dendritic cells, while SIAF will establish the inflammatory profile of the samples and will describe tissue responses and integrity to analyse ability to restore tissue. UMAN will monitor how the bacteria and phages change overtime

The production of the phages is a responsibility of ELIAVA and ELIBIO while NKUA will monitor in vitro phage bacterial interaction to enable the manipulation and study of the regional growth conditions that may lead to severe lung disease.

EFA is responsible for the dissemination of the project results and will organise a Science Festival to inform and maximise the impact of the CURE findings.

The project consortium has met for the first time in Athens last 2nd October to plan the work ahead. Visit the CURE website to follow the evolution of the project.