



Press Release

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Towards Precision Medicine for Atopic Dermatitis and Psoriasis

Dermatologist from Kiel coordinates large-scale European project to investigate inflammatory skin diseases

The EU-funded research project BIOMAP (Biomarkers in Atopic Dermatitis and Psoriasis) has kicked off its activities with the aim of improving the lives of patients affected by the two most common inflammatory skin conditions. Addressing key unmet needs in treating atopic dermatitis and psoriasis by analysing data from more than 50 000 patients, the five-year project will have a broad impact on disease understanding, patient care and future therapies. The team comprises 26 academic and five industry partners as well as five patient organisations. At Kiel University (CAU) the Faculty of Medicine, the University Medical Center Schleswig-Holstein (UKSH), Campus Kiel, and the Cluster of Excellence “Precision Medicine in Chronic Inflammation” will be part of it. The European Innovative Medicines Initiative (IMI) and the participating pharma companies provide EUR 20.8 million funding for the first IMI project in the field of dermatology.

Atopic dermatitis and psoriasis affect more than 300 million people worldwide and are highly variable in terms of onset, severity, progression over time and response to treatment. Resulting in significant morbidity and an increased risk for associated conditions such as arthritis and asthma, inflammatory skin diseases are a huge burden to patients and families, care-givers and healthcare systems. Yet, despite many years of research, there are still significant gaps in the understanding of both conditions.

The renowned clinicians and scientists of BIOMAP, who have now joined forces in a large public-private partnership, will examine the causes and mechanisms of these conditions. By analysing the largest collection of patient data ever and performing advanced molecular investigations at the single cell level and in the tissue context, they aim at identifying biomarkers for variations in disease outcome. Taking advantage of recent technical developments in translational medicine, the project will drive drug discovery and improve direct disease management by combining clinical, genetic and epidemiological expertise with modern molecular analysis techniques and newly-developed tools in bioinformatics.

Assuming that the variation in symptoms and disease progression reflects fundamental differences at a molecular level, the researchers will take a holistic, systematic approach to identify patient subgroups with different subtypes of disease and different responses to therapy. Additionally, the BIOMAP consortium aims to examine the genetic and environmental factors which exert additional influence on disease outcome and treatment response as well as measurable factors in the patients’ blood and skin which reveal the disease subtype they belong to. In an unprecedented analysis of harmonised clinical and molecular data from more than 50 000 patients as well as healthy individuals, the BIOMAP researchers aim to derive a new model for disease classification in order to provide each patient with optimal treatment and an individualised therapy scheme.

“I hope that atopic dermatitis and psoriasis will be identified as a series of different diseases rather than just one disease, each with a characteristic molecular ‘signature’”, says Professor Stephan

Weidinger, academic coordinator of BIOMAP, member of the Cluster of Excellence “Precision Medicine in Chronic Inflammation” and vice director of the Department of Dermatology at the UKSH/CAU. “The project will strengthen the high standard of research and patient care in Kiel.”

The voices of patients living with Atopic Dermatitis and Psoriasis will be at the heart of BIOMAP, through the establishment of a Patient Advisory Group. It will ensure that patients’ insights, opinions and wishes are taken into account across all the multiple components of the project.

Dr Paul Bryce, the consortium’s project lead from Sanofi Genzyme, states that “by understanding these diseases as comprehensively as possible, any molecularly defined endotypes we find will help to drive the next generation of precision therapies that can improve the lives of patients.”

“The findings from BIOMAP will drive rapid drug discovery to target causal mechanisms, and will pinpoint biomarkers which can support clinicians to decide who, when and how to intervene”, expects BIOMAP’s academic co-coordinator Professor Catherine Smith from King’s College London.

“BIOMAP will help us to better understand the relationships between inherited susceptibility, environmental factors, and molecular profiles, and the roles of each of these in onset and progression of the diseases”, says Dr Witte Koopmann, industrial co-project lead from LEO Pharma.

Helen McAteer, Chief Executive of the Psoriasis Association and member of the BIOMAP Patient Advisory Group, described the ambition and purpose of BIOMAP as “a major opportunity to improve the lives of people with skin disease – we need information on why and who is going to develop severe disease, and also new approaches to treatment. Involving a Patient Advisory Group puts the needs of the patients at the heart of the project from the very beginning.

BIOMAP is funded by the Innovative Medicines Initiative 2 Joint Undertaking under Grant Agreement No. 821511 and in-kind contributions of the participating pharma companies. The Joint Undertaking receives support from the European Union’s Horizon 2020 research and innovation programme and EFPIA. The project will officially kick off its activities with a first meeting in London on 10-12 April, 2019.

More information

www.biomap-imi.eu

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The Cluster of Excellence "Precision Medicine in Chronic Inflammation" (PMI) has won funding from 2019 to 2025 through the German Excellence Strategy (ExStra). It succeeds the "Inflammation at Interfaces" Cluster, which had already won funding in two periods of the Excellence Initiative (2007-2018). Around 300 members from eight institutes at five locations are involved: Kiel (Kiel University, University Medical Center Schleswig-Holstein (UKSH)), Muthesius University, Kiel Institute for the World Economy (IfW), Leibniz Institute for Science and Mathematics Education (IPN)), Lübeck

(University of Lübeck, UKSH), Plön (Max Planck Institute for Evolutionary Biology), Borstel (Research Center Borstel - Leibniz Lung Center) and Großhansdorf (Lungenclinic Grosshansdorf). The aim is to draw on the multifaceted research approach to chronic inflammatory diseases of barrier organs, and transfer this interdisciplinarity to healthcare more intensively, as well as to fulfil previously unsatisfied needs of those affected. Three points are important in the context of a successful treatment, and are therefore at the centre of the PMI research: the early detection of chronic inflammatory diseases, the prediction of disease progression and complications, and the prediction of the individual response to treatment.

Cluster of Excellence "Precision Medicine in Chronic Inflammation"

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