

Press release ENDOTARGET

Systemic Endotoxemia as a driver of chronic inflammation: Biomarkers and novel therapeutic targets for Arthritis (ENDOTARGET)

Major EU funding awarded to HUS Helsinki University Hospital led research project to study the role of systemic endotoxemia as driver of chronic inflammation in arthritis

The EU has awarded a 7 million EUR funding to a HUS Helsinki University Hospital led consortium to study the significance of gut microbiota as a driver of chronic systemic inflammation and the role of microbiota in the pathogenesis of rheumatic diseases. An additional 1.8 million EUR has been granted by the Swiss State Secretariat for Education, Research and Innovation (SERI). The project will start in January 2023.



Kuva: Mostphotos

The EU main call objective was to develop a personalized blueprint to reduce chronic inflammation and to prevent health-to-disease transition.

“In this project, we aim to explore the relationship between gut microbiota, intestinal permeability, and systemic endotoxemia. Further we aim to understand their role as drivers of disease onset and disease activity in rheumatoid arthritis, osteoarthritis and spondyloarthritis. The findings of the four-year research consortium may lead to the identification and development of novel preventive and therapeutic approaches,” says ENDOTARGET project leader, Professor **Kari Eklund** from HUS.

The HUS-led consortium studies will include cohort and register studies, cell molecular functional studies, clinical and diet intervention studies in the rheumatic diseases.

“Moreover, by combining all this data, a machine learning (ML) and AI-informed rheumatic disease prediction tool (RDPT) will be developed for clinicians to help them identify patients with increased risk of developing the target diseases,” concludes Eklund.

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101095084



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The ENDOTARGET-consortium will also empower citizens and patients to be able to manage better their own physical health and well-being by testing a new evidence-based model linking nutrition knowledge, termed “Clinical culinary”, and application of dietary strategies to health promotion and reduction of disease activity of rheumatic diseases.

Apart from HUS, the Consortium consists of several leading European research organizations, such as the University of Helsinki, and research groups from Switzerland, Portugal, Spain, Italy, Austria, and Estonia. The consortium also includes industry partners, specialized in bioinformatics, artificial intelligence, machine learning, and communications. The proposal preparation was supported by company specialized in EU-funding, namely Spinverse.

The ENDOTARGET Consortium: Coordinator HUS Helsinki University Hospital (Finland), University of Helsinki (Finland), University of Tartu, University of Campania “L. Vanvitelli”, University of Lisbon (Portugal), Galician Health Service (SERGAS) (Spain), Technical University of Vienna (Austria), Swiss Federal Institute of Technology (ETH Zurich) (Switzerland), Swiss Institute of Bioinformatics (Switzerland), Biomedical Research Institute of Salerno (Italy), NEC Laboratories Europe GmbH (Germany), Steinbeis 2i GmbH (Germany).

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