

Press Release

1403

17 January 2014

EU FUNDS RESEARCH PROJECT ON INTESTINAL IMMUNE PROCESSES

HZI BEGEHT JUBILÄUM DES SCHÜLERLABORS AM 7. JUNI /
PRESSEFOTO UM 11 UHR

How do bacteria, the intestinal surface and the immune system interact with each other? Dr Till Strowig from the Helmholtz Centre for Infection Research (HZI) in Braunschweig wants to tackle this question in a joint project with the University Medical Center Hamburg-Eppendorf. Using the body's own molecule Interleukin 22, he will analyse the complex interplay between intestinal microbes and the colon. The European Research Council ERC will support the project for the next five years with an ERC Starting Grant of 1.5 million Euro in total. The researchers hope to gain new insights regarding the development of colon cancer and other chronic intestinal illnesses.



European Research Council

Established by the European Commission

The human colon offers an ideal habitat for a variety of bacteria. The number and composition of microbe species differ significantly from one person to the next. This individual microbiome is influenced by factors such as diet and activity of the immune system, but also by the intake of certain drugs, like antibiotics. It significantly affects the function of the intestinal mucosa and its immune responses.

The messenger Interleukin 22 and its antagonist, the Interleukin 22-binding protein, are crucial when it comes to immune reactions and tissue regeneration, as for example in wound healing. Mice which cannot produce Interleukin 22 or its antagonist exhibit a significantly higher colon cancer risk compared to animals producing these proteins.

"We want to find out how these two factors are regulated," says Till Strowig. "Our main interest is to identify the bacteria in the intestinal flora and the cells of the immune system which are involved." Whereas he will mainly investigate the interplay between colon bacteria and epithelium, his colleague, Prof Samuel Huber from the University Medical Center Hamburg-Eppendorf, will focus on the relation between immune cells and epithelium. A better understanding of the different cell types responsible for tissue regeneration and immune responses could lead to the development of new therapies against chronic intestinal illnesses and colon cancer.

Till Strowig completed the Medical Biotechnology programme at the "Technische Universität" Berlin. He wrote his diploma thesis at the Rockefeller University in New York, where he later finished his PhD, funded by the Boehringer Ingelheim Foundation. Afterwards, Strowig continued his research at Yale University. Since June 2013, he is head of the junior research group Microbial Immune Regulation at the HZI.

The ERC Starting Grant is awarded annually by the European Research Council to outstanding talents from all scientific fields (erc.europa.eu/starting-grants). The main criterion for ERC funding is scientific excellence of the proposed research.

The “**Microbial Immune Regulation**” Junior Research Group investigates the functions of the microbiome and how it affects the development of infectious diseases.

The Helmholtz Centre for Infection Research:

At the Helmholtz Centre for Infection Research (HZI) in Braunschweig, scientists are studying microbial virulence factors, host-pathogen interactions and immunity. The goal is to develop strategies for the diagnosis, prevention and therapy of human infectious diseases.

www.helmholtz-hzi.de/en