

MUV gets large-scale EU project "RESOLVE" funded!

The pathways that lead from primary organ repair to non-regenerative fibrosis are now being explored by the Medical University of Vienna together with an international consortium – coordinated by Prof. Block and Prof. Ziesche from the MUV. The title and objective of the approximately 11-million euro project are: "Resolve Chronic Inflammation and Achieve Healthy Ageing by Understanding Non-Regenerative Repair."

What potential molecular targets alter wound-healing?

Prof. Lutz-Henning Block – head of the Clinical Department of Pulmonary Medicine at Vienna General Hospital and coordinator of the project – defines RESOLVE's major objective: "RESOLVE aims to identify and characterize the specific molecular mechanisms that shift primary organ repair toward fibroproliferative wound-healing as a result of loss of regenerative control – whether it is age-related or due to illness."

RESOLVE combines scientific approaches

Prof. Rolf Ziesche, senior physician in the Clinical Department of Pulmonary Medicine is confident that RESOLVE can address many essential questions: "RESOLVE combines both functional and disease-oriented strategies. This approach is unique, allowing us to identify the most valuable mechanisms from the vast pool of gene functions that are related to organ repair. Based on these findings, RESOLVE will test the most promising pathways that can improve regenerative wound-healing."

Five Years - Three Steps

RESOLVE's well-adapted consortium already has begun to build the base for efficient and target-oriented cooperation. The five-year project's experimental design is based on a three-step workflow:

1. **Screening and Sorting:** This step includes the systematic collection of data on various wound-healing activities, with and without fibrosis, from several human and animal organ systems. At the same time, organ-specific cell culture models will be designed to analyse single, specific mechanisms. The analysis will be followed by a systematic search for Interfering Substances (IFSs) as well as by a statistical evaluation of all generated data.
2. **Modelling:** With the knowledge that is gleaned from the statistically evaluated data, mathematical probability models and transgenic animals will be generated.
3. **Validating:** During this last step, the effects of IFSs on the promising targets that are identified will be measured, thereby generating data that will be further developed and refined by inputting them back into the mathematical model.

An objective of the project is to develop an experimental diagnostic chip, which will allow for the well-directed analysis of fibroproliferative wound-healing and promote rapid evaluation of patient-specific data.

The results of this project will aid physicians in determining the appropriate intervention for their patients, with little expenditure of time. It would be a monumental success for RESOLVE to identify IFSs that slow or even prevent non-regenerative diseases.

It is expected, that this three-step workflow will shed light on the mechanisms of wound-healing, which will contribute to the basic and urgently needed understanding of regenerative and non-regenerative processes in humans and animals.

2.8 million euros for MUV research

Along with Austrian researchers, partners from Belgium, Germany, Hungary, Israel, Italy, Poland, Spain, and the UK also work with RESOLVE. The Austrian members of the consortium will be funded with 5.6 million euros. Thanks to the strong involvement of the MUV – in addition to the coordinators Doz. Dr. Lars Peter Kamolz (clinical research in plastic and reconstructive surgery) and Prof. Wolfgang Mikulits (cancer progression and metastasis at the Institute of Cancer Research) – 2.8 million euros will be allocated to the MUV alone.

Further Austrian contribution

RESOLVE's consortium consists of two other Austrian partners. Dr. Christa Nöhammer and her team from the Austrian Research Centers GmbH will define diagnostically relevant biomarkers that will be integrated into the experimental diagnostic chip for fibroproliferative wound-healing. Brigitte Rohner, director of punkt international GmbH, is administrative manager of RESOLVE. She already has supported the team at the MUV during its application process and is in close cooperation with the team and is responsible for all of the project's financial, strategic, coordination, and organisational issues.

Please visit <http://resolve.punkt-international.eu/> for more information!

RESOLVE's Facts and Figures

- *RESOLVE is a five-year collaborative large-scale project, funded under the Seventh Framework Programme of the European Commission.*
- *The consortium consists of 13 partners.*
- *Participating countries: Austria, Belgium, Germany, Hungary, Spain, Italy, Israel, Poland, United Kingdom.*
- *Total funding: 10.689.714,00 €.*
- *To MUV: 2.816.568 €.*
- *EU-Call: FP7-HEALTH "Termination of developmental processes and their reactivation in adult life."*