Website address:
https://www.gesundheitsindustrie-bw.de/en/article/press-release/they-heal-wounds-allow-bones-grow-and-calm-inflammation-mwk-funds-cell-therapy-research-mesenchymal-stromal-cells-600000-euros

"They heal wounds, allow bones to grow and calm inflammation" MWK funds cell therapy research into mesenchymal stromal cells with 600,000 euros

The Baden-Württemberg Ministry of Science, Research and Arts (MWK) is supporting medical researchers at Ulm University with start-up funding totalling 600,000 euros. The aim is to establish an EU consortium for the broad therapeutic use of mesenchymal stromal cells. The funding is being awarded as part of the "BEGIN - Participation in major European projects and initiatives" programme. This funding is intended to get new EU collaborative projects on personalised medicine off the ground.

There are cells that, like sensors, react very sensitively to tissue damage and inflammation; and these cells are even able to initiate healing processes and capture overreactions of the immune system. "This refers to so-called mesenchymal stromal cells (MSC), which are used therapeutically in a variety of ways, for example to support bone growth, cartilage regeneration, wound healing or the regulation of immune reactions," explains Professor Hubert Schrezenmeier, who has been researching the clinical use of mesenchymal stromal cells for many years. The physician is the Medical Director of the Institute for Transfusion Medicine at Ulm University Hospital and the Institute for Clinical Transfusion Medicine and Immunogenetics (IKT) - a joint venture between Ulm University Hospital and the German Red Cross Blood Donation Service Baden-Württemberg-Hessen. Schrezenmeier heads the "Prime 4 Regeneration" research project, which is being funded by the MWK with 600,000 euros as part of the BEGIN programme.

The division-active fibroblast-like cells of connective tissue can differentiate into bone, cartilage or fat cells. In order to use them for the development of novel drugs, they are taken from the bone marrow or fatty tissue of donors and cultivated and characterised ex vivo. Special factors can be used to functionalise MSCs in a customised manner. "We are now looking for ways to produce such 'licensed' mesenchymal stromal cells according to the best standards and cultivate them on a large scale for clinical use," explains the Ulm-based physician.

Four other researchers from Ulm University Medicine are involved in the project. These include Professor Markus Huber-Lang, Head of the Institute for Clinical and Experimental Trauma Immunology, Professor Anita Ignatius, Head of the Institute of Orthopaedic Research and Biomechanics, Professor Karin Scharffetter-Kochanek, Medical Director of the Department of Dermatology and Allergology and Professor Florian Gebhard, Medical Director of the Department of Trauma, Hand, Plastic and Reconstructive Surgery. The clinicians have also been conducting research for many years - in some cases in a leading role - in the Ulm Collaborative Research Centre for Trauma Research.

Ulm has played a leading role in six major EU collaborative projects on mesenchymal stromal cells since 2009, with a total of 44 partners and a total funding amount of over 40 million euros. With the help of the BEGIN start-up funding for major European projects, the Ulm medical experts now want to build on these previous scientific successes and submit new funding applications via the "European Partnership for Personalised Medicine" (EP PerMed). The application for BEGIN funding was initiated and supported by Ulm University's central funding organisation, the Centre for Research Strategy and Support (Res.UL).

Future EU collaborative projects will focus, among other things, on establishing a biobank for mesenchymal stromal cells in order to use them as drugs for novel therapies. As the "performance" and cultivability of these cells is heavily dependent on individual factors, the cell donations are not to come from the patients themselves, but from volunteer, healthy donors with correspondingly "potent" MSC. "We have already achieved proof of concept for the therapeutic use of MSCs, and now we want to tackle customised and function-controlled cultivation," emphasises Professor Hubert Schrezenmeier.

Centre for personalised medicine and excellent trauma research

With their excellent research in the field of transdisciplinary trauma sciences, Ulm University and Ulm University Hospital are among the internationally renowned and globally visible centres of personalised medicine. The Collaborative Research

Centre "Danger Response, Disruptive Factors and Regenerative Potential after Acute Trauma" is currently in its third funding period and is supported by the Deutsche Forschungsgemeinschaft (German Research Foundation). The new building for multidisciplinary trauma sciences (MTW building), which is funded by the state of Baden-Württemberg, the federal government and Ulm University, is scheduled to open in spring 2025.

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Further information

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