Physician Dr. Andreas Ramming from Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) has succeeded in securing research funding in one of the toughest European selection processes. Over the next five years, the European Research Council (ERC) will support his outstanding research project with an ERC Starting Grant of 1.5 million euros. In the strict selection process for the proposed projects, the ERC makes its decision on the basis of a comprehensive review process which involves many leading international researchers from the respective fields. Less than ten percent of the research projects submitted are successful.

Once a year, the ERC awards these grants to the best young researchers to give them the chance to establish their own working groups and pursue research projects with great potential for innovation.

Between 10 and 15 million people in Germany currently suffer from an autoimmune disease and the number is growing. The immune system of those affected can no longer differentiate between the body’s own tissue and external threats and triggers an inflammatory response to defend itself, initially in an organ such as the colon or the skin. In many patients, an autoimmune disease presents itself as a type of systemic condition. In time, the inflammation spreads from the area initially affected to other areas of the body and the disease becomes more serious and patients’ suffering increases.

Dr. Andreas Ramming from the Department of Medicine 3 – Rheumatology and Immunology at Universitätsklinikum Erlangen aims to find new approaches to treating these diseases. With his working group, he is investigating molecular mechanisms that trigger the spread of these autoimmune diseases to other parts of the body. During the last few years, Ramming and his team have been collecting data and have discovered the first molecular signatures that seem to foster this serious reaction. The team of physicians now want to investigate further to find out more about the processes behind it and to understand which cells are involved. One thing is already clear: Innate lymphoid cells that were discovered a few years ago play a more important role than was previously suspected.

With the research funding from the ERC Starting Grant worth almost 1.5 million euros, Ramming and his team aim to pursue the experimental approaches they have drawn up during the past few years and, if possible, to design a completely new type of therapy for autoimmune diseases that contributes to preventing inflammation from spreading in the first place instead of treating it symptomatically after it has started. The compulsion to spread inflammation can be seen in almost all autoimmune diseases from multiple sclerosis and Morbus Crohn to rheumatoid arthritis. Ramming chose psoriasis arthritis as a model for his research as inflammation that begins on the skin with this condition often spreads to joints and tendons as the disease progresses.

‘There are currently no treatments available to stop the disease from spreading from the very beginning,’ explains Ramming. ‘It will certainly take some time for us to develop a treatment method, but we hope to make significant progress during the next few years so that we can soon offer some relief to patients suffering from these diseases.’
Dr. Andreas Ramming von der Medizinischen Klinik 3 – Rheumatologie und Immunologie des Universitätsklinikums der FAU.
Bild: FAU