The Jung Foundation for Science and Research has awarded the young gastroenterologist Dr. Sebastian Zundler from the Chair of Internal Medicine I at Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) the Ernst Jung Career Advancement Award for Medical Research 2019. He has been awarded the prize for his research project on the importance of intestinal tissue-resident memory T cells in the development and treatment of inflammatory bowel disease. The Foundation has provided prize money of 210,000 euros to support Zundler’s project over the next three years, focussing on investigating these types of cells with the aim of discovering therapeutic approaches for the future.

Communication between cells and inflammation

More than 400,000 people in Germany are affected by the chronic inflammatory bowel diseases Morbus Crohn or ulcerative colitis. Patients often suffer from flare-ups, during which the immune system in the intestines is falsely activated and intestinal tissue damaged. In spite of advances in treating the diseases with medication, the chronic inflammation still cannot be kept sufficiently in check for a number of patients. In addition, little is known about what actually causes flare-ups.

Sebastian Zundler and his team of researchers presume that intestinal TRM cells have a role to play in the development of bowel diseases such as these, as well as possibly also in other chronic inflammatory diseases such as rheumatoid arthritis. ‘Previous research has already shown that TRM cells have a key role to play in triggering flare-ups by regulating the migration and differentiation of other immune cells,’ explains Zundler. ‘We then succeeded in showing that TRM cells communicate and control other immune cells using various messenger substances.’ Zundler now hopes to decode and understand this communication network in order to be able to use it for therapeutic purposes.

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Young gastroenterologist Dr. Sebastian Zundler from the Chair of Internal Medicine I at FAU has received the Ernst Jung Career Advancement Award for Medical Research 2019
Image: Rudi Ott