

Integrated Research Training Group 130: B Cells and beyond

Speaker

Prof. Dr. rer. nat. Hans-Martin Jäck

Coordination

Dr. rer. nat. Agnes Giniewski

Address

Division of Molecular Immunology
Nikolaus Fiebiger Center
Glückstraße 6
91054 Erlangen
Phone: +49 9131 8543219
Fax: +49 9131 8539343
agnes.giniewski@uk-erlangen.de
www.bcells-and-beyond.de

Aims and structure

The DFG has been supporting the collaborative research center Transregio 130 (TRR 130) „B cells: Immunity and Autoimmunity“ since 2013. The intercity research consortium assembles B cell immunologists from the Faculties of Medicine and of Sciences at FAU (coordinating university) as well as the Albert-Ludwigs University Freiburg, Charité Berlin, Deutsches Rheuma-Forschungszentrum, the Universitätsmedizin Göttingen, and the university Ulm, to better understand the function and dysfunction of B cells. To train highly skilled and internationally competitive immunologists and to foster interactions within and between the five participating locations, an integrated research training group “B cells and beyond” with a strong research and training program as well as mentoring and career development concept has been established within the TRR 130. Common retreats, laboratory rotations within the TRR 130 and the annual B cell winter school provide an ideal platform for an intensive exchange between principle investigators and doctoral students within and between the five participating locations.

Research

B cells are an important part of the human immune system. When pathogens invade the body, B cells are activated and differentiate into so-called plasma cells that produce pathogen-fighting antibodies. Scientists of the TRR 130 examine the mechanisms that control the activation of B cells and the production of antibodies. In particular, scientists of this consortium will elucidate in detail how B cell responses are triggered, how B cells learn to remember pathogens (the so-called immunological memory) and how plasma cells manage to produce

high affinity antibodies for long periods of time. A second scientific topic of the TRR 130 is to understand how B cells with autoreactive antigen receptors are activated to produce autoantibodies that attack the body's own tissue. Autoantibodies can be involved in the pathogenesis of autoimmune diseases, such as rheumatoid arthritis, systemic lupus erythematosus or multiple sclerosis. The scientists of this consortium aim at broadening the general knowledge of B cell and antibody-mediated autoimmune diseases with the long-term goal to develop new therapeutic strategies against these diseases.

Teaching

The training program of the GK within TRR 130 is based on four pillars: Research, education, mentoring, and career development. Each PhD student is supervised by a thesis advisory committee. It consists of the supervisor and two additional group leaders of the TRR 130. The annual B cell winter school provides a platform for the PhD students to present their research in front of a larger audience and to discuss the progress of their PhD thesis. Each of the four participating locations offers a bi-weekly journal club where doctoral students can discuss relevant literature, research results, and new methods with the local TRR 130 investigators. A student exchange program allows optional visits in laboratories within the TRR 130 to broaden the range of methods of the PhD students, to foster exchange, and to promote cooperation between the participating locations. In addition there is also the possibility for external laboratory rotations. Science and professionally relevant workshops (e.g. presentation of industrial occupational fields beyond academia, scientific writing skills, or the analysis of scientific results) are offered on-site by each city or centrally for all PhD students. To develop their organizational skills, the doctoral students are encouraged to organize their own meetings, contribute in the design of the educational program, and participate in the GK steering committee. To improve the PhD students' national and international networks and to discuss their projects in a broader context, they have the possibility to participate in network meetings with other GK and organize one session of the international TRR 130 symposium. To promote public awareness about the importance of immunological research, the PhD students belonging to the GK also participate in local public relations projects. Finally, the GK covers the costs to attend scientific congresses and the three im-

munology schools of the “Academy of Immunology” within the German Society for Immunology (DGfI).

