GERMAN CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION

50 Years – Research for
A Life Without Cancer

No. 10a February 25, 2015 (Koh)

European Research Council supports two more DKFZ researchers

The European Research Council (ERC) awards "Consolidator Grants" to support excellent young researchers at the stage when they are launching their own independent science career. Two junior research group leaders from the German Cancer Research Center (DKFZ) have now received the prestigious grants: Markus Feuerer is studying how special T cells prevent an immune response against tumors. Hai-Kun Liu is investigating why brain tumors are composed of a variety of cells, with the goal of finding better treatment methods.

Many young scientists reach a critical point in their career when they aim to become independent of their mentors and start their own science career. Oftentimes, the appropriate institutional infrastructures and funding necessary for this career step to occur are missing. "This is a critical phase in a person's career when we have to make sure that our young talents do not leave the DKFZ and seek to advance their career elsewhere," says DKFZ Chairman and Scientific Director Otmar D. Wiestler.

The European Research Council (ERC) has responded to these needs by launching two tools for supporting young scientists. One is the "ERC Consolidator Grant," which was introduced in 2013 and is designed to support young investigators who have already established their own research programs, up to twelve years after completion of their PhD. The ERC awards these grants in order to support outstanding young scientists with excellent research project proposals. Wiestler considers it a great success that the ERC has concurrently selected two DKFZ Junior Research Group leaders, Markus Feuerer und Hai-Kun Liu, as recipients of the prestigious grants. Just recently, Lena Maier-Hein from the DKFZ also received an "ERC Starting Grant," which is designed to support young researchers who are just starting an independent science career.

Markus Feuerer is an immunologist who has been studying the control of the immune system for several years. Key players in this process are regulatory T cells ("Tregs") that suppress immune responses against the body's own tissues and organs. Thus, while they prevent autoimmune reactions, they also prevent desired immune responses against cancer cells. Markus Feuerer has been searching for new methods and agents to keep Tregs and their functions in check so that the immune system can effectively fight cancer cells. In addition, he wants to investigate how groups of Tregs specialize in different organs and support their functions in the absence of classical immune responses in these organs.

Markus Feuerer studied medicine in Mainz and Heidelberg and earned his doctorate degree in 2003. While working on his medical dissertation in T cell immunology at the DKFZ, he contributed to twelve publications. Following a first postdoctoral position from 2003 to 2004 at the German Rheumatism Research Center Berlin (DRFZ) and Charité University Medicine Berlin, he worked as a postdoctoral researcher at Harvard Medical School in Boston, USA, for five years. Since 2009, he has been leading the Helmholtz Young Investigator Group on Immune Tolerance at the DKFZ. Feuerer has already received numerous research awards including the Sir Hans Krebs Prize in 2001, the Richtzenhain Prize in 2004, the Helmholtz Young Investigator Award in 2009, and the Georges Köhler Award in 2014.

Tumors are composed of a large variety of cells that vary in the way they respond to treatment. Neuroscientist Hai-Kun Liu has been studying brain tumors with the goal of finding out how this heterogeneity in tumor cells arises. Liu has developed a method that he uses to follow, in brain tumors of mice, the fate of individual cells and their offspring. His goal is to find out how brain cancer stem cells, cancer precursor cells and differentiated cells all contribute to tumor growth. This also makes it possible to study the impact of chemotherapy or radiation therapy on the composition of tumors. By studying individual cancer cells, Liu ultimately aims to explore the molecular factors that are responsible for the heterogeneity of a tumor and how this should be taken into account during treatment.

Hai-Kun Liu studied biology at Shandong University in the People's Republic of China. He earned his PhD in 2005 at the Shanghai Institute for Biological Sciences of the Chinese Academy of Sciences. From 2005 to 2010 he performed research in the department of Günther Schütz at the DKFZ, where he has been leading the Helmholtz Young Investigator Group on Normal and Neoplastic CNS Stem Cells since 2011. Liu has already been recognized with several scientific awards including the 2014 EMBO Young Investigator Award and the 2010 Helmholtz Young Investigator Award.

The ERC will provide grants of EUR 2 million for each of the two projects.
The ERC Consolidator Grants are awarded through a highly competitive process; only about 15 percent of the proposals in this round of contenders were approved. The grants are awarded for a five-year period to support young investigators in their efforts to establish themselves in their field and to prepare themselves for the next step in their career.

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