

Press Information, July 28, 2021

Defeating Cancer with Immune Cells

Genetically modified white blood cells recognize and fight cancer cells

The Schering Stiftung awards the Friedmund Neumann Prize 2021 to Judith Feucht for her contributions to developing and implementing T cell therapies to improve clinical care for cancer patients. The award includes a prize money of EUR 10,000.

Through her scientific research, Dr. Judith Feucht has made an essential contribution to improving the therapeutic effectiveness of T cell therapies. In T cell therapies, endogenous defense cells, the white blood cells, are genetically modified so that they can recognize and fight tumor cells. A frequent problem in cancer patients is that normal T cells often do not recognize tumor cells as a threat and therefore will not attack. With the aid of genetic engineering, endogenous cells can be converted into chimeric antigen receptor T cells, short CAR T cells, in the lab and subsequently returned into the human organism. Equipped with these antigen receptors, the T cells are then able to detect and destroy tumor cells in the body. Judith Feucht's research in the lab of Prof. Michel Sadelain at Memorial Sloan Kettering Cancer Center in New York (USA) and as part of the iFIT Cluster of Excellence at the Children's Hospital of the University of Tübingen yielded important insights into the therapeutic efficacy of CAR T cells and thus made a major contribution to the development of a new form of these genetically modified white blood cells. In preclinical studies, these novel CAR T cells have shown improved therapeutic results and are currently being tested in patients.



Dr. Judith Feucht
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Beate Armbruster

On September 7, 2021, Dr. Judith Feucht will receive the **Friedmund Neumann Prize 2021** for this outstanding research. "Judith Feucht has impressively managed to successfully continue her research at the Memorial Sloan Kettering Cancer Center in New York (USA) at the iFIT Cluster of Excellence, in connection with her clinical work at the Children's Hospital of the University of Tübingen," said Prof. Dr. Dr. h.c. Stefan H. E. Kaufmann, chairman of the Foundation Council to explain the jury's decision.

This year, the Schering Stiftung awards the 10,000-euro prize for the tenth time to young scientists for their outstanding basic research in human biology, organic chemistry or human medicine. The prize aims to make visible excellent scientific achievement, honor the early development of a distinctive scientific profile, and help the prize winners establish themselves in their field of research.

Judith Feucht was nominated for the Friedmund Neumann Prize 2021 by **Prof. Dr. Rupert Handgretinger**, Medical Director of the Department of General Pediatrics, Hematology, and Oncology at the Tübingen University Hospital until 2021. "As a physician and researcher, Dr. Feucht combines clinical and scientific work, and she has succeeded in realizing the dream of every translational researcher, i.e., using their own scientific insights for the benefit of the patient," said Handgretinger.

Award Ceremony: Friedmund Neumann Prize

September 7, 2021, 6:30 p.m., in English

Berlin-Brandenburg Academy of Sciences and Humanities | Markgrafenstr. 38 | 10117 Berlin
By registration only. Please register with Dr. Katja Naie, naie@scheringstiftung.de.

Lectures by Dr. Judith Feucht

September 8, 2021, 10 a.m., in German

Lecture to students: Living Drugs: How to strengthen the immune system to fight cancer
Oberstufenzentrum Lise Meitner – School of Science, Berlin-Neukölln (not open to the public)

September 23, 2021, 1:00 p.m.

Public scientific lecture: Novel CAR designs and therapeutic applications
Berlin Institute of Health at Charité (BIH)
In English | online. Possibility to register in time on www.bihealth.org.

Background Information

Judith Feucht studies the further development and improvement of cellular immune therapies, especially with chimeric antigen receptor T cells ("CAR T cells"). In T cell therapies, immune cells from the patient's blood are isolated and genetically modified to enhance their specificity and effectiveness against cancer cells. CAR T cells have achieved great clinical success especially in hematological cancer and acute lymphoblastic leukemia.

Despite a high initial response rate, some patients suffer from relapses, however, and some tumors only respond insufficiently to the therapy. Judith Feucht's research aims to further improve CAR T cell therapy and also use it successfully in other major diseases.

Her previous research was able to show that the anti-tumor efficacy of CAR T cells can be significantly improved through specific modifications in their signal domains. Based on promising data, this CAR design is now being evaluated in clinical studies at Memorial Sloan Kettering Cancer Center (MSKCC) in New York. In addition, Feucht's scientific work could contribute to the preclinical development of new CAR T cell therapies for patients with major non-malignant diseases and demonstrate the successful use of CAR T cells in combination therapies in solid tumors.

Judith Feucht studied human medicine at the University of Tübingen, where she earned her doctorate in 2011 and received her medical license. She subsequently worked as resident physician and researcher at the Children's Hospital of the University of Tübingen. In 2015, she joined the lab of Prof. Michel Sadelain at Memorial Sloan Kettering Cancer Center in New York (USA) as a postdoc. She returned to Tübingen in September 2020 and currently works as a physician in the Children's Hospital and directs her own research group at the "Image Guided and Functionally Instructed Tumor Therapies (iFIT)" Cluster of Excellence at the University of Tübingen, the only oncology cluster of excellence in Germany. The cluster aims to develop innovative and sustainable cancer treatments through a more comprehensive understanding of the biological processes in tumors. Dr. Feucht's research primarily focuses on cellular immunotherapies, especially on improving and expanding CAR T cell therapy.

Further Information

This press release and images can be found at <https://scheringstiftung.de/en/presse/>.

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