The Leopoldina originated in 1652 as a classical scholarly society and now has 1,600 members from almost all branches of science. In 2008, the Leopoldina was appointed as the German National Academy of Sciences and, in this capacity, was invested with two major objectives: representing the German scientific community internationally, and providing policymakers and the public with science-based advice.

The Leopoldina champions the freedom and appreciation of science. It promotes a scientifically enlightened society and the responsible application of scientific insight for the benefit of humankind and the natural world. In its interdisciplinary discourse, the Academy transcends thematic, political and cultural boundaries. It is also an advocate of human rights.

Expanding the Scope of CAR T Cell Therapy
An Interdisciplinary Discussion

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08 – 09 April 2024
German National Academy of Sciences Leopoldina
Jägerberg 1
06108 Halle (Saale), Germany
Expanding the Scope of CAR T Cell Therapy
An Interdisciplinary Discussion

The onset of Chimeric Antigen Receptor (CAR) T cell therapy marks a revolutionary development in the field of immunotherapy, achieving notable success since its approval in 2017 for treating B cell malignancies. Designing a patient's own T cells to specifically identify and eradicate tumor cells has successfully treated individuals with previously incurable hematologic cancers. While CAR T cells are currently predominantly utilized in anti-tumor therapy, their initial conceptualization aimed at a broader objective of targeting membrane antigens, opening the door to numerous potential applications. Subsequent studies have explored the application of CAR T cells in non-malignant pathologies, encompassing autoimmune diseases, infectious diseases, and more recently, conditions such as cardiac fibrosis and cellular senescence. Within this interdisciplinary discussion, we present key findings and implications of CAR-based therapies for non-malignant conditions.

Day 1 – 08 April 2024

01:30 – 01:40 pm
Welcome / Introduction
Thomas Krieg ML, Vice-President of Leopoldina
Andreas Mackensen, Georg Schett ML, Scientific coordinators

01:40 – 02:20 pm | Key Note
Status of CAR T cell technology in hematology/oncology
Fabian Müller, Erlangen

02:10 – 02:40 pm | Impulse #1 + Discussion
CAR T cells in autoimmune diseases
Georg Schett ML, Andreas Mackensen, Erlangen

02:40 – 04:10 pm | Impulse #2 + Discussion
CAAR T cells for autoantibody-mediated diseases
Aimee S. Payne, New York
CAR T cells and systemic lupus erythematosus (SLE)
Maric Radic, Memphis
CAR T cells and Myasthenia gravis
Dimitrios Mougakakos, Magdeburg

04:10 – 04:40 pm | Coffee break

04:40 – 05:10 pm | Impulse #3 + Discussion
CAR T cells and cardiac fibrosis
Joel G. Rurik, Stockholm

05:10 – 05:40 pm | Impulse #4 + Discussion
CAR T cells and cellular senescence
Scott W. Lowe, New York

05:45 – 06:45 pm
Plenary discussion
Georg Schett ML, Elmar Jaeckel, Marion Subklewe, Georg Stingl ML, Janina Paech (Patient)

Day 2 – 9 April 2024

09:00 – 09:10 am
Recap and prospect
Andreas Mackensen, Erlangen

09:10 – 09:40 am | Impulse #5 + Discussion
CAR T cells targeting HIV
Steven Deeks, San Francisco

09:40 – 10:10 am | Impulse #6 + Discussion
CAR T cells and hepatitis B
Ulrike Protzer, Munich

10:10 – 10:40 am | Coffee break

10:40 – 11:10 am | Impulse #7 + Discussion
CAR Treg cells in organ transplantation and autoimmune disease
Elmar Jaeckel, Toronto

11:10 – 12:10 am | Impulse #8 + Discussion
Investigator initiated trials with CAR T cells: Regulation and Point of Care production
Michael Schmitt, Heidelberg
Investigator initiated trials with CAR T cells: Future development
Marion Subklewe, Munich

12:10 am – 12:30 pm
Final discussion

12:30 pm | Refreshment and farewell