1 Universitaetsklinikum Wuerzburg (Wuerzburg, Germany)

2 Ospedale San Raffaele (Milano, Italy)

3 Universidad de Navarra (Pamplona, Spain)

4 Centre Hospitalier Regional et Universitaire de Lille (Lille, France)

5 Bundesinstitut für Impfstoffe und biomedizinische Arzneimittel (Langen, Germany)

6 DRK-Blutspendedienst (Mannheim, Germany)

7 Myeloma Patients Europe (Brussels, Belgium)

8 NBE Therapeutics (Basel, Switzerland)

9 T-CURX GmbH (Wuerzburg, Germany)

10 ARTTIC S.A.S (Paris, France)

Key Data

Project Start:	**1st January 2018**
Funding period:	**52 months**
EC funding:	**6.097.875 EUR**

Key Contacts
Project Coordinator
Universitaetsklinikum Wuerzburg
Dr. Michael Hudecek
Josef-Schneider-Strasse 2
97080 Wuerzburg, Germany

Project Manager
ARTTIC S.A.S.
Oskar-von-Miller-Ring 29
80333 Munich, Germany
caramba-arttic@eurtd.com

Project Website
www.caramba-cart.eu
www.twitter.com/caramba_project

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 754658

caramba

SLAMF7 CAR-T CELLS IN MULTIPLE MYELOMA

Background and aims
Multiple myeloma is a rare blood cancer with around 40.000 new cases diagnosed in Europe each year. Although it is currently incurable, the treatment of multiple myeloma has improved substantially in the last years.

CAR-T cells - a new form of immunotherapy
CAR-T cells, also known as 'Chimeric Antigen Receptor' T cells,
have the potential to fundamentally change the treatment of multiple myeloma and could ignite a new era of chemotherapy-free cancer medicine.

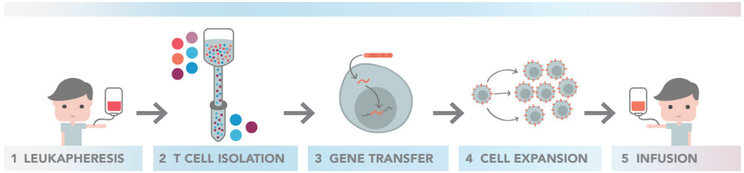
CAR-T cells are part of a patient´s immune system. The modification of these T cells with a CAR enables them to recognise a protein expressed on the surface of cancers cells and, through this, to find and destroy them.

CAR-T cells have been used for the treatment of other blood cancers, demonstrating impressive clinical responses and improved outcomes in patients. The CARAMBA project is now assessing this innovative approach in multiple myeloma.

Multiple myeloma-specific
The CARAMBA project is running the first CAR-T cell clinical trial targeting the multiple myeloma-specific protein SLAMF7 which can be found on the surface of myeloma cells. T cells are therefore collected from the patient and equipped with CAR, redirecting the T cells to recognize the SLAMF7 protein and destroy the multiple myeloma cells.

Mission
The ultimate goal of the CARAMBA project is to promote a chemotherapy-free and more curative treatment approach for multiple myeloma and to establish SLAMF7 CAR-T cells as a broadly applicable therapeutic concept for multiple myeloma patients in Europe.

SLAMF7 CAR-T clinical trial – 4 sites 30 patients in Europe
The clinical trial within CARAMBA is designed as a Phase I/II trial and will start in the second half of 2019. Phase I is a dose escalation study and will explore the most effective dose of the CAR-T cell product. For the Phase II part of the trial, 19 patients will be treated with the maximum tolerated dose of SLAMF7 CAR-T cells. The treatment is carried out as follows:



1 White blood cells of a patient are extracted by leukapheresis, a procedure in which white blood cells are separated from a sample of blood.

2 T cells are isolated from the white blood cells.

3 In the next step, the gene sequence for the SLAMF7 CAR is inserted into the DNA of the T cells. The CAR enables the T cells to recognize the SLAMF7 protein on myleoma cells.

4 The modified T cells are then expanded outside the patient's body.

5 CAR-T cells are infused back into the patients, where they can multiply when they encounter their target protein SLAMF7 and subsequently kill myeloma cells.

Participating Centres

Universitaetsklinikum Wuerzburg
Josef-Schneider-Strasse2
97080 Wuerzburg, Germany
hudeceklab@ukw.de

Ospedale San Raffaele
Via Olgettina 60
20132 Milano, Italy
consoli.grazia@hsr.it

Clinica Universidad de Navarra
Pío XII, 36
31008 Pamplona, Spain
paurodriguez@unav.es

Lille University Hospital
Avenue Oscar Lambret, 2
59037 Lille, France
alexandra.preau@chru-lille.fr