
BEACON-MM – Base Editing Advanced Chimeric Antigen Receptor Natural Killer cells to Cure Multiple Myeloma

Consortium coordinator:

Dr. med. Tobias Bexte

Department of Pediatrics

Goethe University Frankfurt am Main

Project partners:

Dr. Timo Rückert

Institute of Medical Immunology

Charité - Universitätsmedizin Berlin

Dr. med. Dimitrios Laurin Wagner

Berlin Center for Advanced Therapies

Charité - Universitätsmedizin Berlin

Cell therapies have emerged as new treatment options that have significantly improved cure rates for certain cancers, particularly leukemias, in recent years. By contrast, in other cancers, despite initially promising treatment responses, relapses often occur. The goal of the BEACON-MM project is to develop a novel, improved cell therapy against cancer that enhances the potent anti-tumor effects of natural killer (NK) cells through targeted genetic modifications, in order to achieve lasting treatment success even in difficult cancers such as multiple myeloma.

To achieve this goal, new methods of precise genetic modification will be applied, enabling the simultaneous introduction of multiple genetic alteration. A specific “cancer recognition mechanism” will be permanently integrated into NK cells. At the same time, “brakes” in the immune system that normally prevent cells from effectively attacking cancer will be disabled and combined with additional modifications to prolong NK cell persistence, and, ultimately, enhance their efficacy.
