Hotel Steigenberger am Kanzleramt Ella-Trebbe-Str. 5 - 10557 Berlin, Germany

DAY I - 07th FEBRUARY 2019 (Meeting room: Salon 5)

- **10.30-11.00** Registration and welcome coffee
- **11.00-11.15** Official opening by the dean of the faculty Axel Radlach Pries - Charité - Universitätsmedizin Berlin, Germany
- **11.15-12.45** Welcome & introduction (incl. IPR management) Petra Reinke - Charité - Universitätsmedizin Berlin, Germany
- **12.45-13.00** Financial and administrative management Gabriella Dessole - Innovation Acta S.R.L, Italy
- 13.00-14.00 Lunch

WP1 - Next-generation Treg development platform

Chair: Ignacio Anegon - Centre Hospitalier Universitaire de Nantes, France

- 14.00-14.40 Task 1.1 Enhanced target antigen specificity by CAR Treg approach
 Subproject 1: Allospecific CAR-Treg (Final Milestone: approved GMP manufacturing process)
 & Task 1.9 Exploration of the feasibility of using allogeneic off-the-shelf Treg products
 (Final Milestone: ready for transfer of the most promising candidate into GMP manufacturing process)
 Ignacio Anegon Centre Hospitalier Universitaire de Nantes, France
- 14.40-15.10Task 1.1 Enhanced target antigen specificity by CAR Treg approach
Subproject 2: Tissue(Autoantigen)-specific CAR-Treg
(Finale Milestone: approved GMP manufacturing process)
Elmar Jäckel Medizinische Hochschule Hannover, Germany
- 15.10-15.50 Task 1.2 Enhanced target antigen specificity by TCR Treg approach Cas9 specific TCR-Treg as a role model

(Final Milestone: ready for transfer into GMP manufacturing process for generating Cas9-spec. TCR Treg) & Task 1.7 Enhanced engraftment of Treg by inducing resistance to immune-suppressive drugs using CRISPR/Cas9 technology & by enabling to deliver locally IL-2 Subproject 2: Enabling Treg to secrete autocrine IL-2 in vivo (Final Milestone: ready for transfer into GMP manufacturing process) Michael Schmück-Henneresse - Charité - Universitätsmedizin Berlin, Germany

15.50-16.30 Coffee break



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16.30-17.10	 Task 1.4 Enhanced stability of Treg products to inflammatory triggers by CRISPR/Cas9 mediated knock-down switch points (SPR-Treg) (Final Milestone: selection of the most promising SPR-Treg product candidate for further development to GMP-grade product) & Task 1.7 Enhanced engraftment of Treg by inducing resistance to immune-suppressive drugs using CRISPR/Cas9 technology & by enabling to deliver locally IL-2 Subproject 1: Resistance to Immunosuppressive drugs by CRISPR/Cas9 technology (Final Milestone: approved GMP manufacturing process for generating these next-generation Treg) Dimitrios Laurin Wagner - Charité - Universitätsmedizin Berlin, Germany
17.10-17.40	 Task 1.3 Enhanced stability of Treg products by epigenetic modification (Final Milestone: ready for transfer into GMP manufacturing process for generating epigenetically stabilized Treg) & Task 2.3 Molecular Signature (RNA seq, TCR seq, Methylation) of Treg products (Final Milestone: Molecular signature of all Treg candidates) Julia K. Polansky-Biskup - Charité - Universitätsmedizin Berlin, Germany
17.40-18.00	Task 1.5 Generation of stable regulatory T cell by programming mitochondrial morphology & cellular metabolism (Final Milestone: ready for transfer of the most promising candidate into GMP manufacturing process) Christina Iwert and Kerstin Mühle - Charité - Universitätsmedizin Berlin, Germany
18.00-18.30	Task 1.6 Exploring CD8+ Treg as an alternative and/or complementary to CD4+ Treg (Final Milestone: approved GMP manufacturing process for generating these CD8+ Treg) Carole Guillonneau - Centre Hospitalier Universitaire de Nantes, France
18.30-19.00	Task 1.8 Development of virus-free gene transfer into Treg (Final Milestone: 1-2 fully validated non-viral gene transfer methods applicable for Treg) Tristan Thwaites and Hanna Milewicz - Cell and Gene Therapy Catapult Limited, UK
19.30	Networking dinner at Restaurant Fashion (Hotel Steigenberger am Kanzleramt)



SHAPF



SHAPE Kick O7th Hotel

Kick-off Meeting 07th-08th February 2019

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DAY II - 08th FEBRUARY 2019 (Meeting room: Salon 5)

WP2 - Next-generation Treg product characterisation platform

Chair: Markus Templin - Naturwissenschaftliches und Medizinisches Institut an der Universität Tübingen, Germany

- 08.30-09.00 Task 2.1 Proteomics for characterisation of Treg products
 Subproject 1: Targeted proteomics approaches: DigiWest and Luminex
 (Final Milestone: In-depth proteomics analysis of all preselected Treg candidates)
 Markus Templin Naturwissenschaftliches und Medizinisches Institut an der Universität Tübingen, Germany
- 09.00-09.20 Task 2.1 Proteomics for characterisation of Treg products Subproject 2: Unbiased proteomics approach Final Milestone: In-depth proteomics analysis of all preselected Treg candidates) Oliver Klein - Charité - Universitätsmedizin Berlin, Germany
- **09.20-09.40 Task 2.2 Multiparameter Flow/Mass Cytometry for characterization of Treg products** Final Milestone: In-depth cytometric analysis of all Treg candidates) Mathias Streitz - Charité - Universitätsmedizin Berlin, Germany

WP3 - Next-generation test platform for new in vivo & in vitro preclinical models Chair: Joanna Hester - University of Oxford, UK

- **09.40-10.10** Task 3.1 *In vivo* (modified "humanized" rodents models) preclinical (disease) models (Final Milestone: Proof-of-Concept by *in vivo* analysis of all preselected Treg candidates) Fadi Issa - University of Oxford, UK
- **10.10-10.40** Task 3.2 *In vitro* (organ/human-on-the-chip technology) preclinical (disease) models (Final Milestone: Proof-of-Concept by *in vitro* analysis of all preselected Treg candidates) Uwe Marx TIssUse GmbH, Germany

10.40-11.10 Coffee break





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WP4 - Clinical Trial platform to prove the next generation Treg approaches Chair: Tim Schmidt - TxCell/Sangamo Therapeutics, France *combined with:*

WP 5 - Biomarker platform to monitor therapy response to next-generation Treg approaches Chair: Hans Dieter Volk - Charité - Universitätsmedizin Berlin, Germany

11.10-11.50 Task 4.1 Improvement of in vivo engraftment of adoptively transferred Treg by specific conditioning of the Recipients

Clinical study n° 2: "ProTreg Trial - A Phase I/IIa single dose study to investigate the safety and tolerability of tTregs as an adjunctive therapy in CD kidney recipients following anti-thymocyte (ATG) induction therapy"

(Final Milestone: Clinical Proof-of-Concept of the combination T-cell depletion + Treg) & Task 5.1 Validation and performance of biomarker studies for safety, PK/PD, mode-of-action (Final Milestone: Summary & conclusion regarding PK/PD, safety, putative surrogate markers, mode-of-action from biomarker analyses of the clinical trial) Petra Reinke and Hans Dieter Volk - Charité - Universitätsmedizin Berlin, Germany

11.50-12.30 Task 4.1 Improvement of in vivo engraftment of adoptively transferred Treg by specific conditioning of the Recipients

Clinical study n° 3: "The TWO Study: Transplantation Without Over-immunosuppression" (Final Milestone: Clinical Proof-of-Concept of the combination T-cell depletion + Treg) **& Task 5.1 Validation and performance of biomarker studies for safety, PK/PD, mode-of-action** (Final Milestone: Summary & conclusion regarding PK/PD, safety, putative surrogate markers, mode-of-action from biomarker analyses of the clinical trial) Joanna Hester - University of Oxford, UK

12.30-12.50 Task 4.2 FIH clinical trials of the next-generation Treg products

Clinical study n° 1: "The TacRes Trial - First-in-human (FIH) phase I trial for safety assessment of CRISPR/Cas9 permitted Calcineurin inhibitor (CNI) resistant (FKBP-KO) autologous tTreg application in CD renal transplant recipients" (Final Milestone: FIH clinical trial of next-generation Treg product to prove safety and hints of efficacy) Petra Reinke - Charité - Universitätsmedizin Berlin, Germany

12.50-13.10 Task 4.2 FIH clinical trials of the next-generation Treg products Clinical study n° 4: "The RESHAPE Study CD8+Treg Trial ("Eight-Treg")" (Final Milestone: FIH clinical trial of next-generation Treg product to prove safety and hints of efficacy) Carole Guillonneau - Centre Hospitalier Universitaire de Nantes, France

13.10-14.15 Lunch



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WP6 - Clinical Development research and early HTA for supporting exploitation strategies & business models for next-generation Treg approaches Chair: Mohamed Abou El-Enein - Charité - Universitätsmedizin Berlin, Germany

- 14.15-14:45Task 6.1 Clinical Development ResearchMohhamed Abou El-Enein Charité Universitätsmedizin Berlin, Germany
- 14.45-15.15Task 6.2 Early Health Technology AssessmentTim Schmidt TxCell/Sangamo Therapeutics, France

WP7 - Dissemination, Exploitation, Communication Chair: Gabriella Dessole - Innovation Acta S.R.L, Italy

- **15.15-15.40** Dissemination, project website, development and implementation of an exploitation plan Gabriella Dessole - Innovation Acta S.R.L, Italy
- **15.40-16.15** Coffee break & Consultation round Project Ethics Committee/External Advisory Board
- **16.15-16.45** Statement of the Project Ethics Committee (reserved to Project Ethics Committee members)
- 16.45-17.15 Statement of the External Advisory Board (reserved to External Advisory Board members)

Recapitulation & discussion



