

## RenalToolBox – Project Description

<b>ESR Number:</b>	ESR11	<b>Host:</b>	UHEI
<b>Project Title:</b>	Establishing potency assays predicting immunomodulatory and renalprotective effects of mesenchymal stromal cells		
<b>Research Field:</b>	Biological Sciences		
<b>Contact Person:</b>	Prof. Dr. Karen Bieback, Institute of Transfusion Medicine and Immunology, Core Facility for Flow Cytometry		
<b>Academic Supervisor(s):</b>	Prof Dr. Karen Bieback		
<b>Research Group / Department:</b>	Cell Therapy Lab and FlowCore Mannheim		
<b>Group's website:</b>	<a href="https://www.umm.uni-heidelberg.de/transfusionsmedizin-und-immunologie/forschung/ag-bieback">https://www.umm.uni-heidelberg.de/transfusionsmedizin-und-immunologie/forschung/ag-bieback</a> <a href="https://www.umm.uni-heidelberg.de/medical-faculty-mannheim/research/core-facilities/flowcore-mannheim/">https://www.umm.uni-heidelberg.de/medical-faculty-mannheim/research/core-facilities/flowcore-mannheim/</a>		
<b>Full Address:</b>	Institute of Transfusion Medicine and Immunology FlowCore Mannheim Medical Faculty Mannheim Heidelberg University Friedrich-Ebert Str. 107 68167 Mannheim, Germany		
<b>Expected Start Date:</b>	01 April 2019		
<b>Description:</b>			
<p>The RenalToolBox is an EU-funded ITN that aims to develop novel tools and technologies to assess the safety and efficacy of cell-based regenerative medicine therapies for kidney disease. You will join a team of 15 Early Career Researchers (ESR) working across 10 different institutions towards this goal.</p> <p>The successful applicant will be enrolled as a PhD student at the Heidelberg University (D), the oldest university in Germany. Specifically, you will be joining our Cell Therapy Lab at the Institute of Transfusion Medicine and Immunology, associated to the German Red Cross Blood Donor Services Baden-Württemberg – Hessen.</p> <p>The aim of this project, as part of the greater ITN program, is to establish a matrix of in vitro potency assays for immunomodulation, renoprotective effects and safety based on in vivo data in close collaboration with the other ESR at Heidelberg and within the consortium.</p> <p>The specific tasks of this project are:</p> <ul style="list-style-type: none"> <li>- Isolate and characterize adipose-tissue-derived mesenchymal stromal cells (A-MSCs), their secretome and extracellular vesicles.</li> <li>- Establish MSC and EV reference material/standards for quality metrics.</li> <li>- Evaluate immunomodulatory functions specifically on macrophages and T cell populations.</li> <li>- Evaluate renoprotective effects using live-cell imaging tools and sophisticated flow cytometry assays,</li> <li>- Correlate in vitro data to in vivo data on mechanisms of action and establish a matrix of potency assays capable of predicting therapeutic efficacy.</li> </ul>			

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The post holder will be employed on a fixed term (36-month contract) and enrolled as a PhD student at the Heidelberg University. The candidate will be expected to spend periods of time with other partners in the consortium.

More information about this consortium and the project can be found in [www.renaltoolbox.org](http://www.renaltoolbox.org).

### **Required Skills / Qualifications:**

#### Essential:

- BSc and Master's degree in a relevant subject (biomedical sciences, bioengineering, molecular biology or other related subjects)
- Excellent oral and written communication skills with well-developed interpersonal skills.
- Ability to work effectively and collaboratively within a multidisciplinary team.
- Enthusiastic, self-motivated individual, willing to take part in personal skills training, international travel and public outreach activities.
- Demonstrated commitment to high-quality research.
- At least basic knowledge in stem cell biology.
- At least basic knowledge in immunology and immunological assays.

#### Desirable

Research experience involving mesenchymal stem/stromal cells, immunology, flow cytometry, live cell imaging, RT-qPCR, -OMICs or good manufacturing practice (GMP) principles.

The candidate is also required to fulfil the research experience and transnational mobility requirements outlined in <https://renaltoolbox.org/job-positions/>

### **Other requirements:**

Good to very good English skills (TOEFL or IELTS), if applicable.  
Able to stay at partner institution for secondment.