

Excellence Cluster: Regenerative Therapies: From Cells to Tissues to Therapies: Engineering the Cellular Basis of Regeneration

<https://neurodegenerationresearch.eu/survey/excellence-cluster-regenerative-therapies-from-cells-to-tissues-to-therapies-engineering-the-cellular-basis-of-regeneration/>

Title of project or programme

Excellence Cluster: Regenerative Therapies: From Cells to Tissues to Therapies: Engineering the Cellular Basis of Regeneration

Principal Investigators of project/programme grant

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Source of funding information

Deutsche Forschungsgemeinschaft

Total sum awarded (Euro)

10000000

Start date of award

01-11-2006

Total duration of award in months

132

The project/programme is most relevant to

- Alzheimer's disease and other dementias
- Parkinson's disease
- Neurodegenerative disease in general

Keywords

Research abstract in English

“An important goal of biomedical research for the 21st century is to understand how to exploit the regenerative capacity of the body for new therapies. Reconstructive therapy is already a reality for the transplantation of haematopoietic stem cells. However, for many major diseases such as diabetes, Morbus Parkinson, Alzheimer, bone/cartilage or myocardial diseases, regenerative therapy is still fiction. The Center for Regenerative Therapies Dresden (CRTD) integrates research in the field of nanotechnology, material science, medicine and biology in order to develop novel strategies for regenerative therapies. Our main objectives are: (1) to develop advanced regenerative therapies for haemato-oncological, endocrine, neurodegenerative, bone/cartilage and cardiovascular diseases, (2) to study the crucial mechanisms controlling stem cell recruitment, activation, proliferation, and differentiation, in model organisms, (3) to control these cellular processes using genetics, surface engineering, matrix engineering and microdevices in order to provide control of stem cell activity and regeneration, (4) to test the novel regeneration therapies in pre-clinical and clinical trials, (5) to develop such therapies into marketable products with our commercial partners, (6) to develop a leading center for Regenerative Therapies in Europe. The CRTD uses the financial support (cluster of excellence award) by the DFG to: (1) catalyse the clinical translation of basic research results by creating dedicated clinical research positions, (2) boost the application of new technologies in clinical and preclinical research through joint project funding, improved technology and facilitated technology transfer, (3) strengthen materials sciences approaches by setting up a dedicated professorship in this area, (4) create novel career options for junior researchers and support for female scientists.”

Lay summary