

PRESS & MEDIA RELEASE

Prize Awarded for the Further Development of Cellular Immunotherapies

Zurich, 23.10.2019 – A research team from Germany and one from Switzerland share this year's Swiss Bridge Award. Presented with prize money of CHF 250,000 each, the scientists are pursuing approaches that aim at alleviating side effects and expanding the use of cellular immunotherapies.

New cellular immunotherapies cannot be compared with classical drugs. Drugs are clearly defined chemical substances, but the new treatments are alive; using cancer patients' immune systems from their own bodies to fight cancer at the cellular level. Patients' cells are genetically modified and multiplied in a laboratory – then transferred back into their bodies, where the cells can act with increased strength against degenerated tumour cells, thanks to genetic upgrading. In some patients, cellular immunotherapies lead to spectacular successes. However, at times, such treatments fail for other patients. Therefore, more research is needed to further develop this new and promising treatment so that more patients can benefit from it.

Europe-wide Competition among Researchers

That is the reason this year's Swiss Bridge Foundation's call was dedicated to the topic of cellular immunotherapies. A total of 52 young researchers from all over Europe competed for the Swiss Bridge Award 2019. In a two-stage evaluation process, the jury of renowned experts in their final selection gave priority to two projects. Today, the two project leaders, Denis Migliorini, from the University Hospital of Geneva, and Lukas Bunse, from the German Cancer Research Center in Heidelberg, Germany, each receive 250,000 Swiss francs for the implementation of their research projects.

Alleviate Neurotoxic Side Effects

Denis Migliorini and his team want to reduce the considerable neurotoxic side effects of currently approved immunotherapies. Nerve damage occurs in 30 to 50 percent of patients. The spectrum ranges from temporary neurological deficits (such as disorders when walking or speaking) to severe seizures and comatose states, which can be fatal in some cases. Migliorini and his team recently discovered that the target molecule of the genetically modified immune cells is found not only on the surface of cancer cells, but also on the surface of pericytes. The pericytes form the blood vessel walls in the brain and play a central role in the blood-brain barrier. In their research project, Migliorini and his team hope to equip the patients' immune cells with an additional gene that enables the genetically modified cells to differentiate between the cancer cells and the pericytes; thus, only killing the cancer cells.

Immunotherapies for Brain Tumours

Until now, cellular immunotherapies have been particularly successful in combating various types of blood cancer. Lukas Bunse and his team are trying to extend this treatment method to gliomas. These are tumours that infiltrate the brain – and due to their invasive growth, they cannot be cured, even by surgical removal. In previous studies, Bunse and his team have identified promising target molecules in glioma cells. They are now planning to produce new genetically modified immune cells in their research project – and then test these cells – first with animal models and then with patients – in order to see whether these immune cells are able to prevent the growth of gliomas.

The Swiss Bridge Foundation was founded with the support of the Swiss Cancer League, over 20 years ago. Its goal is to financially support high-quality research projects in the fight against cancer, with the help of private donors and foundations. Since the Foundation was established, Swiss Bridge has received more than 30 million Swiss Francs in donations; while supporting research projects in Belgium, Brazil, England, France, Germany, Israel, Italy, Norway, Sweden, Spain and Switzerland.

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