

Press Release

On 24 September 2013, the workplace of the “CZ-OPENSSCREEN: National Infrastructure for Chemical Biology” project was ceremonially opened.

A top scientific centre, the “CZ-OPENSSCREEN: National Infrastructure for Chemical Biology”, was created within the framework of the Institute of Molecular Genetics of the ASCR at the complex of the Academy of Sciences of the CR in Krč in Prague. This project was supported with CZK 109,251,900.22 from the OP: Prague Competitiveness within the fourth call, priority axis 3 – Innovation and Entrepreneurship, support area 3.1 Development of an innovation environment and partnership between basic research and development and practice. Basic research will take place here in chemical biology and genetics.

This relatively young scientific field, which has been on the rise globally in the last years, attempts to identify new chemical compounds, which could be subsequently used as a basis for the development of new medications or as an instrument for more detailed understanding of cellular processes. The research in this new centre will be focused predominantly on seeking compounds effective in the battle with illnesses, such as neurodegenerative diseases, tumour diseases, the failure of haematopoiesis or diabetes. The newly opened centre is equipped with large robotic systems, which allow the testing of tens or hundreds of thousands of compounds in a short time frame. The centre also has laboratories with the top equipment, which ensure the follow-up testing of the selected compounds on tissue cultures and model organisms. An inseparable part of the infrastructure will be the National Collection of Compounds connected with the European Chemical Biology Database (ECBD).

The CZ-OPENSSCREEN project directly complements the “Technological platform-label-free” project, which has been supported with CZK 4,999,999.99 from the OP: Prague Competitiveness within the eighth call, priority axis 3 – Innovation and Entrepreneurship, support area 3.1 Development of an innovation environment and partnership between basic research and development and practice. The financial means for this project were intended for the purchase of equipment that is capable of observing the behaviour of cells, the interaction of cellular molecules or the cytotoxic effects of substances on cells, all in real time. This latest instrumental equipment qualitatively strengthens the background of the infrastructure of the CZ-OPENSSCREEN for chemical biology and genetics.

The strong synergy of these two projects thus allows the acceleration and increased efficiency of the process of seeking and characterizing the candidate compounds for the development of potential medicines. The “Label-free” project concentrated mainly on the search for new possibilities of therapies of the colorectal carcinoma, prostate cancer and breast cancer. These cancers are among the most serious and for instance the Czech Republic takes thanks to their high occurrence to the long-term highest ranks of the imaginary world chart. Within the project, testing and optimization of efficiency will take place and also the levels of the cytotoxicity of the cytostatics and other substances and this knowledge will be subsequently used in the treatment of oncological diseases. The final result of the realization of the project should lead to a reduction of the occurrence of tumour diseases and mortality, and to a rationalization of the costs for diagnostics and treatment.

The sense of the infrastructure of CZ-OPENSSCREEN is the creation of excellent conditions for the development of basic research in the area of chemical biology and genetics. The centre will be open to all research employees from various scientific fields and allow them to utilise

the latest technical equipment used today in chemical biology and genetics, not only in Prague and the Czech Republic but in all of Europe.

The building of this centre is of fundamental importance for the Czech Republic and moves Czech research in the area of chemical biology and genetics to the European level. This newly created infrastructure will become an inseparable part of the European network of research infrastructures EU-OPENSREEN, which allows open access to the unique European Chemical Biology Database (ECBD) also to the scientific employees from the Czech Republic. The Central Database of Results of the testing, protocols and information on chemical compounds connected with it will be accessible for the public after a certain protected period.

This connection with the European network of infrastructures and the access to scientific results with possibly the largest scientific community also fulfils one of the main principles of European cooperation and integrity.

The project partners are the Institute of Chemical Technology in Prague and the Faculty of Pharmacy of Charles University.

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For more information, see: <http://www.label-free.cz> or <http://www.openscreen.cz/>