



# STROKE BRNO

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## PRESS RELEASE

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### **A unique research cluster for the treatment of stroke has been established in Brno**

Stroke, along with heart disease and cancer, is the leading cause of death worldwide and affects more than 17 million people annually. It is the most common cause of permanent disability in adults. In the Czech Republic, a stroke affects 25,000 people a year and almost 10,000 people die each year as a result. Research in the field of diagnosis and treatment of stroke will now be more comprehensive thanks to the STROKE BRNO cluster - on a European scale a unique and close cooperation of seven Brno entities.

STROKE BRNO is an interdisciplinary research cluster with the aim of connecting the knowledge and expertise of academic and industrial partners and ensuring the effective use of knowledge from basic research in clinical practice. This approach of so-called translational research is an important step in supporting the development of innovative diagnostic and therapeutic procedures. The members of the cluster are The International Clinical Research Center of St. Anne's University Hospital Brno (FNUSA-ICRC), Institute of Biophysics of the Czech Academy of Sciences, Loschmidt Laboratories of the Faculty of Science of Masaryk University and FNUSA-ICRC, Institute of Scientific Instruments of the Czech Academy of Sciences, Veterinary Research Institute, Masaryk Memorial Cancer Institute and BioVendor Research & Diagnostic Products company.

"The idea of creating a research cluster STROKE BRNO came from the need for a better connection between the research carried out in the laboratory and the needs of patients," said the initiator of the cluster prof. MUDr. Robert Mikulík, Ph.D., Head of the FNUSA-ICRC Cerebrovascular Research Program and professor of neurology at the Faculty of Medicine of MU, "as a result of this need, we created the STROKE BRNO research platform." The cooperation of scientists in the academic and clinical environment was strengthened by the connection with the biotechnological industrial sector, which is represented by the company BioVendor Research & Diagnostic Products. "This is a unique opportunity for us to participate in the entire process of research and development of new pharmacological agents or systems for the diagnosis of stroke," added MVDr. Michal Kostka, CEO of the company, "we have so much more information and the final phase of production can be faster than usual."

The Loschmidt Laboratories of the Faculty of Science of Masaryk University and FNUSA-ICRC are also members of the cluster. "Each institution in this platform has its irreplaceable role and we operate as one team. If a new idea arises, colleagues from the institutes of the Czech Academy of Sciences will perform testing in human brain models printed on a 3D printer, experts from the Veterinary Research Institute can test substances in animal models," described prof. Mgr. Jiří Damborský, Dr., Head of Loschmidt laboratories. "Our research team uses computer modeling tools and artificial intelligence to design a protein that can effectively dissolve a blood clot in patients' brains."

The main areas of interest of the STROKE BRNO cluster include the development of new drugs, biopharmaceuticals and nanosystems for the diagnosis and treatment of stroke, new diagnostic procedures and prognosis of stroke so that the results of research will have a positive impact on patient treatment in the future. The work and results are also closely monitored abroad – with experts from the Vall d'Hebron Institute Barcelona, the South Korean Dongguk University in Seoul and the Weizmann Institute in Rehovot already cooperating with the cluster. "We are also open to cooperation with other domestic institutions and companies that can use their expertise for the benefit of stroke research," added prof. Mikulík.

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