

KOPPÁNY PÁRDI



National Academy of Scientist Education, 1st year

University of Szeged, Faculty of Science and Informatics,
Molecular Biology MSc 2nd year

YEAR OF BIRTH

2002

FORMER SZENT-GYÖRGYI PUPIL

no

RESEARCH UNIT

HUN-REN Biological Research Centre

SZENT-GYÖRGYI MENTOR

Szilvia Veszelka

JUNIOR MENTOR

SPECIALIZATION

blood-brain barrier

SECONDARY SCHOOL

Kossuth Lajos Secondary School, Cegléd

NAME OF TEACHER

Andrea Palcsó, István Mező, Eszter Hegedűsné Halász, Krisztina Bata

LANGUAGES

English/intermediate
German/intermediate

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

During ischemic stroke, insufficient blood supply to the brain leads to oxygen-glucose deprivation (OGD). This disease affects millions of people worldwide and ranks as the second leading cause of death. Current therapeutic approaches mainly focus on removing the thrombus that blocks blood flow; however, this treatment can only be applied within a narrow therapeutic window, considering certain risk factors, and is available to only a small fraction of patients. Moreover, the sudden reperfusion (OGD/R) that follows thrombolysis can further augment neuronal damage. Not only neurons but also the integrity of the blood-brain barrier (BBB) — composed of endothelial cells, pericytes, and astrocytes — becomes compromised during OGD/R injury. Since preserving the integrity of the BBB is a crucial aspect of protecting the nervous system, our research focuses on testing protective compounds that enhance BBB integrity. When used as an adjunct to thrombolytic therapy, such compounds could enable safer and more effective treatment of ischemic stroke. Our experiments are conducted using co-culture models of the BBB. In our previous work, we tested several compounds that showed protective effects on BBB cells, and our future research aims to explore their mechanisms of action and to test additional compounds.

AMBITIONS AND CAREER GOALS

My goal is to reliably and effectively contribute to the work of our research group and to complete my master's studies with positive results. After that, I would like to gain further experience as a PhD student and by actively participating in research work, become a recognized member of the scientific community.

HONORS AND PRIZES

- 2024 SZTE Talent Excellence List - bronze
- 2024 Scientific Student Association Conference, biology, 1st place
- 2025 37th National Scientific Student Association Conference, 1st place
- 2025 Pro Scientia Gold Medal
- 2025 SZTE Talent Excellence List - silver
- 2025 Richter Gedeon Nyrt. Centenarium Foundation – researcher student grant
- 2025 Egyetemi Kutatói Ösztöndíj Program (EKÖP)
- 2025 Nemzeti Felsőoktatási Ösztöndíj (NFÖ)
- 2025 Poster award at MÉT-MBFT- MMVBT-MABIT conference

PUBLICATIONS

Szecskó, A., Párdi, K., Cui, Z., Porkoláb, G., Hoyk, Z., Kovács, C., Adegbite, J. F., Cser, N. M., Dér, L., Nagy, K., Sajben, C., Tengölics, R., Deli, M. A., Veszelka, S. (2025) The histone deacetylase inhibitor SAHA restores blood-brain barrier integrity in a human stem cell-based model of ischemic stroke. *Br J Pharmacol*