DÁVID VINCE SIMON



National Academy of Scientist Education, 4th year

University of Pécs
Faculty of Medicine, 5th year

YEAR OF BIRTH

2003

FORMER SZENT-GYÖRGYI PUPIL

no

RESEARCH UNIT

University of Pécs

SZENT-GYÖRGYI MENTOR

Éva Borbély

JUNIOR MENTOR

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SPECIALIZATION

neuropharmacology

SECONDARY SCHOOL

Nagy Lajos High School, Szombathely

NAME OF TEACHER

Teréz Szinetárné Márkus

LANGUAGES

English/advanced

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

The number of central nervous system disorders is increasing every year, with 1 in 8 people suffering from a mental disorder, according to the World Health Organisation. These include conditions such as anxiety, depression and dementia. In many cases they do not occur separately but as comorbidities of each other. Their treatment is currently a major therapeutic challenge and an important area for drug development, as the available drugs have limited efficacy and a number of serious side effects when used for prolonged periods. Through the experiments performed, we aim to elucidate the pathophysiological processes underlying these diseases and to identify new target molecules that may play a significant role in the development and exacerbation of these diseases. One of these endogenous compounds is haemokinin-1, a member of the neuropeptide family, which has been shown to play a role in acute stress responses and in the mediation of pain. The identification of its mechanism of action and target molecules may open new directions for the development of anti-anxiety/antidepressant and memory-enhancing drugs.

AMBITIONS AND CAREER GOALS

As an NASE student, I had the opportunity to participate in experiments as part of a research team and to contribute to publications and to the advancement of scientific knowledge for mankind through my active work in the lab. I would like to set my goals as follows. To extend my work as a TDK member and to fulfil the requirements of the programme as soon as possible. To present our results at various conferences and to obtain a PhD after university.

HONORS AND PRIZES

2025 III. Romhányi György conference 3rd place
2025 University of Pécs, Student's Research Conference, 1st place and Special Award
2023 XXXVI. OTDK Medical and Health Section, 1st place
2023 University of Pécs, Student's Research Conference, 1st place and Special Award

PUBLICATIONS

Simon, DV., Rozmer, K., Kepe, E., Tóth, N., Pohóczky, K., Salamonné, Mihály O., Török, B., Renner, É., Palkovits, M., Helyes, Z., Borbély, É. (2025) Widespread neuronal hemokinin-1 expression in motor regions and its protective role in age-related impairment. **Geroscience** 10.1007/s11357-025-01972-4.