LAURA MUNDRUCZ

National Academy of Scientist Education, 3rd year

University of Pécs
Faculty of Medicine, 3rd year

YEAR OF BIRTH

1998

FORMER SZENT-GYÖRGYI PUPIL

no

RESEARCH UNIT

University of Pécs

SZENT-GYÖRGYI MENTOR

Miklós Kecskés

JUNIOR MENTOR

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SPECIALIZATION

electrophysiology

SECONDARY SCHOOL

St. László High School, Kőbánya

NAME OF TEACHER

Erzsébet Sóskuthyné Kovács

LANGUAGES

English/advanced
Russian/basic
French/basic

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

Mossy cells are excitatory neurons located in the dentate gyrus of the hippocampus. They are involved in adult neurogenesis, plasticity and the formation of hippocampal oscillations. In addition, they display significant vulnerability in temporal lobe epilepsy (TLE). The function of TRPM4 ion channel - expressed specifically in mossy cells - has been previously presented by our research teem. The Transient Receptor Potential (TRP) ion channel family comprises of 28 members in mammals. These well-studies receptors play a role in several physiological processes in the peripheral nervous system. However, TRP expression in the brain is a less explored area, with specific emphasis on cellular expression patterns. Accordingly, we will monitor the function of the channel in experimental TLE model using EEG measurements, patch clamp experiments and behavioural tests. In line with the results obtained from the above mentioned techniques, we aim to clarify the cellular mechanisms underlying the death of the TLE- sensitive mossy cells. Moreover, we believe the findings will contribute greatly to the development of effective antiepileptic drugs.

AMBITIONS AND CAREER GOALS

As a Psychology BA/BSc graduate, neuroscience is a perfect addition to my previous studies. Joining my current research team has already provided several possibilities concerning scientific growth: I was familiarized with numerous modern research techniques. Given my already existing devotion towards electrophysiology, my aim is to explore as many aspects of both my and other interdisciplinary research fields as possible. I believe this will serve as a solid platform for future possibilities and that I will contribute to the work of my vibrant research environment.

HONORS AND PRIZES

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PUBLICATIONS

Mundrucz, L., Kecskés, A., Henn-Mike, N., Kóbor, P., Buzás, P., Vennekens, R., Kecskés, M. (2023) TRPM4 regulates hilar mossy cell loss in temporal lobe epilepsy. **BMC Biol. 26:** 96.