

# CSENGE SÓLYOMVÁRI



National Academy of Scientist Education, 4<sup>th</sup> year

University of Pécs  
Faculty of Sciences, Biology, 4<sup>th</sup> year

## YEAR OF BIRTH:

1999

## FORMER SZENT-GYÖRGYI PUPIL:

no

## SZENT-GYÖRGYI MENTOR:

Dóra Zelena

## JUNIOR MENTOR:

Szidónia Farkas

## SPECIALIZATION:

molecular biology,  
physiology

## SECONDARY SCHOOL:

University of Pécs, Deák  
Ferenc High School

## NAME OF TEACHER:

Ágnes Brózik

## LANGUAGES:

English/intermediate

## IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

In our aging society the prevalence of dementia is becoming an increasingly prominent social problem. Current therapies do not halt the progression of the disease, highlighting the importance of further research. The occurrence of dementia is much more common in women, especially post-menopause, when estrogen and progesterone levels decrease. These neurosteroid hormones, as well as their precursor compounds like dehydroepiandrosterone (DHEA), have protective and anti-inflammatory effects on the nervous system. We aim to examine – with the help of a transgen mice strain - how the reduction in hormone levels during menopause affects the course of the disease, as well as the function and morphology of microglia and astrocytes. Understanding the disease better may open new possibilities for targeted therapies. Our hypothesis suggests that menopause will increase the quantity of microglia and astrocytes in the affected areas of the brain, and these cells will exhibit morphological changes, such as cell body enlargement and increased number and length of processes. In the case of treatment with estrogen and similar compounds, we expect a beneficial effect.

## AMBITIONS AND CAREER GOALS

My goal is to gain as much practical knowledge as possible in my profession during my university years, which I can use in my later jobs. TDK work gives me the opportunity to be an active part of the research community and at the same time I can gain a lot of experience and build relationships. In this way, as a young, graduated biologist, I will be able to contribute more effectively to the development of science and to a life free from disease.

## HONORS AND PRIZES

2023 National Scientific Student Circle Conference III. place  
2022 University of Pécs, Student's Research Conference, 1<sup>st</sup> place

## PUBLICATIONS

Farkas, S., Szabó, A., Török, B., **Sólyomvári, C.**, Fazekas, C. L., Bánrévi, K., Correia, P., Chaves, T., Zelena, D. (2022) Ovariectomy-induced hormone deprivation aggravates A $\beta$ 1-42 deposition in the basolateral amygdala and cholinergic fiber loss in the cortex but not cognitive behavioral symptoms in a triple transgenic mouse model of Alzheimer's disease. *Front Endocrinol* 13: 985424.