

LUCIEN LEMAITRE



National Academy of Scientist Education, 1st year

University of Szeged

Szent-Györgyi Albert Medical School, 1st year

YEAR OF BIRTH:

2002

FORMER SZENT-GYÖRGYI PUPIL:

yes

SZENT-GYÖRGYI MENTOR:

Mária Deli

JUNIOR MENTOR:

Ilona Gróf

SPECIALIZATION:

Cell biology, pharmacology

SECONDARY SCHOOL:

Németh László Primary and Secondary School

NAME OF TEACHER:

Edit Böngyik Csaláné,
Ferenc Matyuska,
Eszter Arany

LANGUAGES:

English/advanced
German/intermediate

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

I have joined research in the fields of biomedicine and pharmacology on models of the blood-brain barrier and other biological barrier systems in the Biological Barriers Research Group. The importance of these investigations is that many drug candidates developed for the diseases of the central nervous system are inefficient because the blood-brain barrier, formed by the endothelial cells of the brain capillaries, blocks drug penetration into the brain tissue. Blood-brain barrier characteristics, such as the expression of transporter proteins, display significant species variety, therefore the animal cells and models do not faithfully mimic the function of the human blood-brain barrier. In order to increase the success of preclinical drug studies, cell culture based models with a complexity close to the human blood-brain barrier are necessary. At present endothelial cell models differentiated from stem cells represent the highest level of this technology. However, the barrier function of these models is weak. The goal of my research work is to contribute to the creation of a model with complex barrier features. The new complex human blood-brain barrier model will help the investigation of drug candidates and therapeutic nanocarriers in preclinical studies.

AMBITIONS AND CAREER GOALS

As a medical student my primary aims are to obtain a medical degree, to find the most appropriate medical specialty and to do comprehensive clinical work in that field. Studying at the university and participating in basic research at the same time offer a wide range of opportunities therefore I would like to continue both activities in the future as well. For this purpose, I would like to apply for an MD-PhD programme. During my graduate and/or postgraduate studies I would also like to gain further research experience in the laboratory of one of the international mentors of the program.

HONORS AND PRIZES

2022 – NASE „Szent-Györgyi Student of Excellence” prize

PUBLICATIONS

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