LUCIEN LEMAITRE

National Academy of Scientist Education, 3rd year

University of Szeged
Szent-Györgyi Albert Medical School, 3rd year

YEAR OF BIRTH

2002

FORMER SZENT-GYÖRGYI PUPIL

yes

RESEARCH UNIT

HUN-REN Biological Research Centre

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 endothel 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

2021 Richter Gedeon Talentum Foundation's Scholarship
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2022 'Student of the year' award of the National Academy of Scientist Education
2022 SZTE Start Scholarship
2022 ÚNKP National Scholarship for Excellence University Education "Tehetséggel fel!"
2022 Special Award on OTDK Conference in the filed of chemistry
2023 First place on TDK Conference in the field of medicine

PUBLICATIONS

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