

LÉNA MÉSZÁROS



National Academy of Scientist Education, 1st year

University of Szeged

Albert Szent-Györgyi Medical School 2nd year

YEAR OF BIRTH

2004

FORMER SZENT-GYÖRGYI PUPIL

no

SZENT-GYÖRGYI MENTOR

Szilvia Juhász

JUNIOR MENTOR

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SPECIALIZATION

tumour biology

SECONDARY SCHOOL

Miklós Radnóti
Experimental School,
Szeged

NAME OF TEACHER

Sándor Bán, Viktória Gál

LANGUAGES

English/advanced

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

The human body harbors a diverse array of microbes, forming a dynamic and mutually beneficial system that evolves synergistically with the host's physiological development. In the realm of the human microbiome, the focus has transitioned from merely cataloging this diversity to delving into the molecular mechanisms through which microbiomes impact human health. Microbes and their metabolites can influence developmental trajectories, leading to lifelong health implications.

Virulence is defined as an organism's capacity to infect a host and induce disease. These virulence factors can be classified as secretory, membrane-associated, or cytosolic in nature. Cytosolic factors enable the bacterium to rapidly adapt to metabolism, physiology, and morphology. Membrane-associated virulence factors aid the bacterium in adhering to and evading host cells. Secretory factors play a crucial role in the bacterial defense system, assisting the bacterium in navigating through the host's innate and adaptive immune responses. Virulence factors, when secreted by extracellular pathogens, collectively contribute to the destruction of host cells. Our research is driven by the goal of scrutinizing the complex interplay between bacterial virulence and the nuanced responses of human cells. To achieve this goal, we strategically developed and implemented a pioneering model for the infection of bacteria and human cells. This model provides a solid foundation for exploring the dynamic interactions between bacterial pathogens and the host cell environment.

AMBITIONS AND CAREER GOALS

At the moment my main focus is getting incorporated in my research group as much as possible and as effectively as I can, while learning about the science community as a whole. During my time in the programme I want to acquire most of the knowledge in my field and use this in my career both in medicine and research. I especially aim to help in the battle against bacteria with the goal that one day their risk factor will reach an all time low.

HONORS AND PRIZES

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PUBLICATIONS

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