

REBEKA GELENCSEÉR



National Academy of Scientist Education, 3rd year

Semmelweis University
Faculty of Medicine, 3rd year

YEAR OF BIRTH

2003

FORMER SZENT-GYÖRGYI PUPIL

no

RESEARCH UNIT

Semmelweis University

SZENT-GYÖRGYI MENTOR

Anna Sebestyén

JUNIOR MENTOR

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SPECIALIZATION

experimental medical
research,
pathology,
oncology,
tumour biology

SECONDARY SCHOOL

Alternative Economics
High School

NAME OF TEACHER

Gergely Nádori

LANGUAGES

English/intermediate
German/intermediate

IMPORTANCE, AIMS AND POSSIBLE OUTCOME OF RESEARCH

The metabolic heterogeneity of tumor tissue, the organization of the most diverse metabolic pathways and signaling pathways have long been a serious challenge in tumor therapy. Current traditional two-dimensional cell cultures do not fully enable the modeling of these complex processes, since the tumor tissue itself is a heterogeneous three-dimensional structure capable of adaptation. Based on more and more research, we can conclude that three-dimensional bioprinting can be a solution to this problem. In our research, our goals include the development of three-dimensional bioprinted tumor models, and then we can investigate the effect of several metabolic inhibitors in them, potentially finding new active pharmaceutical ingredients in order to develop more effective tumor therapy methods.

AMBITIONS AND CAREER GOALS

In addition to the desire to heal, the desire for a deeper understanding of nature led me to medicine. The research gives me the opportunity not only to develop my way of thinking, but I am confident that I can contribute to the work of my research group in order to advance biomedical research and develop new therapeutic methods by developing new model systems. The program provides me with an excellent framework for this, as they help me with scientific research work that goes beyond the academic framework already during the theoretical years of the training.

HONORS AND PRIZES

2023 - XXVII Korányi Frigyes Scientific Forum, 3rd place

PUBLICATIONS

Moldvai, D.,¹ Sztankovics, D.,¹ Dankó, T.,¹ Szalai, F.,¹ Miyaura, R.,¹ Petővári, G.,¹ Krencz, I.,¹ **Gelencsér, R.**,¹ Sebestyén, A.,¹ (2024) Effects of 3D tissue structure on drug sensitivity - 3D bioprinted tissue mimetic structures in cancer research. **Magy Onkol.** 37768119.

Sztankovics, D.,¹ Moldvai, D.,¹ Petővári, G.,¹ **Gelencsér, R.**,¹ Krencz, I.,¹ Raffay, R.,¹ Dankó, T.,¹ Sebestyén, A.,¹ (2023) 3D bioprinting and the revolution in experimental cancer model systems-A review of developing new models and experiences with in vitro 3D bioprinted breast cancer tissue-mimetic structures. **Pathol Oncol Res** 36843955.