

BALÁZS SZÜCS

**Personal data:****Date of birth:** 02.02.1999.**Place:** Szeged

EDUCATION

2021-	Biology, MSc – University of Szeged, Faculty of Science and Informatics
2017-2021	Biology, BSc – University of Szeged, Faculty of Science and Informatics
2021	Leadership Training – PricewaterhouseCoopers Könyvvizsgáló Ltd.
2020	Animal experiments theory and practice – A level – 40 hour (20 hr theoretical, 20 hr practical) training
2013-2017	Attila József Secondary School Makó

RESEARCH EXPERIENCE

Mentor:	Prof. Dr. Attila Gácsér
Topic:	Investigation of oral squamous cell carcinoma prognostic markers following oral candidiasis using <i>in vivo</i> mouse model
Period:	2019-

SCIENTIFIC STUDENTS' ASSOCIATIONS CONFERENCES

2021	XXXV. National Scientific Students' Associations Conference - 2. prize Biology section , Microbiology session 3, 3-6 th May, online
2020	Annual Scientific Students' Associations Conference, University of Szeged, Faculty of Science and Informatics – Microbiology session- special award , 26 th November, online
2020	Annual Scientific Students' Associations Conference, University of Szeged, Faculty of Medicine – Cell biology session - special award , 11-13 th November, online

CONFERENCE ATTENDANCE

- 2022** The situation of natural sciences in Hungary-From university to the job market workshop, 18-19th March, Baja
- 2021** 6th Central European Forum for Microbiolog, 13-15th October 2021, Kecskemét, Hungary
- 2021** XXV. Korányi Frigyes Scientific Forum – Experimental and clinical immunology, microbiology, genetics session-**second prize**, 6-7th May, online
- 2020** EUGLOH- Annual Student Research Conference-co-author Cancer screening and care, Antimicrobial resistance session - **second prize**, 28-30th September, online

PUBLICATIONS:

Máté Vadovics, Jemima Ho, Nóra Igaz, Róbert Alföldi, Dávid Rakk, Éva Veres, **Balázs Szücs**, Márton Horváth, Renáta Tóth, Attila Szücs, Andrea Csibi, Péter Horváth, László Tiszlavicz, Csaba Vágvolgyi, Joshua D. Nosanchuk, András Szekeres, Mónika Kiricsi, Rhonda Henley-Smith, David L. Moyes, Selvam Thavaraj, Rhys Brown, László G. Puskás, Julian R. Naglik, Attila Gácsér. *Candida albicans* enhances the progression of oral squamous cell carcinoma *in vitro* and *in vivo*. mBio, January/February 2022 Volume 13 Issue 1 e03144-21

LANGUAGE

ENGLISH B2, Complex

RESEARCH OBJECTIVES

Head and neck cancer is a serious health issue worldwide, and the number of registered cases is increasing year by year. Comparing the EU member states, Hungary has the highest incidence of oral tumors, both in men and women.

In the case of oral squamous cell carcinoma (OSCC), the primary treatment is chemo-radiotherapy, which causes immunosuppression, and it affects the oral microbiome, often leading to oral candidiasis.

Our laboratory showed in a previous study that patients diagnosed with OSCC had more, and more types of yeast than healthy mouth, and there were more fungi on the surface of the tumor than on the healthy surface.

Therefore, we aimed to investigate how fungal overgrowth in the oral cavity affects the progression of OSCC and the process of metastasis. Preliminary *in vitro* experiments have demonstrated that changes in HSC-2 human OSCCs treated with *Candida albicans* have been shown to promote tumor cell progression.

In my TDK work, our goal was to be able to study the fungal-tumor interaction in an *in vivo* mouse model. In our study, we injected HSC-2 cells into the tongues of immunosuppressed mice and subsequently induced oral candidiasis. We have successfully developed a model to visualize the effect of oral candidiasis on OSCC and to demonstrate that oral candidiasis also promotes tumor progression *in vivo*, which has been confirmed by transcriptomic as well as histopathological studies.