

GÁBOR VARGA



Semmelweis University
Centre for Translational Medicine and
Faculty of Dentistry, Department of Oral Biology

Address: Nagyváradi tér 4., H-1089 Budapest, Hungary

RESEARCH AREA

The main research area of Gábor Varga is to study the mechanisms that regulate the development and functioning of tissues of epithelial origin, primarily salivary glands, tooth enamel, and the pancreas at molecular level. Another direction of his research is the investigation of stem cells derived from human tooth tissue into odontogenic, osteogenic and neurogenic directions for tissue regeneration systems. In addition to his work as a theoretical researcher, he has participated in and also led numerous clinical research collaborations, including research aiming the application of saliva diagnostics for the identification of the COVID-19 disease. He actively participates in the work of the Translational Medicine Center of Semmelweis University, founded in 2021, as a vice director, and an active supervisor.

TECHNIQUES AVAILABLE IN THE LAB

- Cell culture, tissue and organoid culture,
- Isolation, cultivation and molecular physiology of mesenchymal and epithelial stem cells
- gene expression (RT-PCR)
- microfluorometry (intracellular functional tests of biological processes)
- tissue engineering, bio-engineering
- basics for translational medicine
- design and implementation of meta-analyses
- basics for design of clinical research

SELECTED PUBLICATIONS

Dudás C., Czumbel L.M., Kiss S., Gede N., Hegyi P., Mártha K., **Varga G.** (2023) Clinical bracket failure rates between different bonding techniques: a systematic review and meta-analysis. *Eur J Orthod* **45(2)**: 175-185.

Földes A., Sang-Ngoen T., Kádár K., Rácz R., Zsembery Á., DenBesten P., Steward MC., **Varga G.** (2021) Three-Dimensional Culture of Ameloblast-Originated HAT-7 Cells for Functional Modeling of Defective Tooth Enamel Formation. *Front Pharmacol* **12**: 682654.

Földes A., Reider H., Varga A., Nagy KS., Perczel-Kovach K., Kis-Petik K., DenBesten P., Ballagi A., **Varga G.** (2021) Culturing and Scaling up Stem Cells of Dental Pulp Origin Using Microcarriers. *Polymers (Basel)* **13(22)**: 3951.

Czumbel LM., Kiss S., Farkas N., Mandel I., Hegyi A., Nagy Á., Lohinai Z., Szakács Z., Hegyi P., Steward MC., **Varga G.** (2020) Saliva as a Candidate for COVID-19 Diagnostic Testing: A Meta-Analysis. *Front Med (Lausanne)* **7**: 465.

Farkasdi S., Pammer D., Rácz R., Hriczó-Koperdák G., Szabó BT., Dobó-Nagy C., Kerémi B., Blazsek J., Cuisinier F., Wu G., **Varga G.** (2019) Development of a quantitative preclinical screening model for implant osseointegration in rat tail vertebra. *Clin Oral Investig* **23(7)**: 2959-2973.

Bori E., Guo J., Rácz R., Burghardt B., Földes A., Kerémi B., Harada H., Steward MC., Den Besten P., Bronckers AL., **Varga G.** (2016) Evidence for Bicarbonate Secretion by Ameloblasts in a Novel Cellular Model. *J Dent Res* **95(5)**: 588-96.