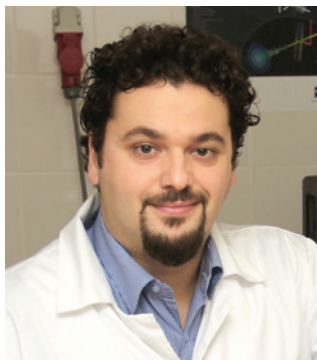


JÓZSEF MALÉTH



University of Szeged
Albert Szent-Györgyi Medical School
First Department of Medicine

Address: Korányi fasor 8-10, H-6720 Szeged, Hungary

RESEARCH AREA

Epithelial cells are essential orchestrators of organ physiology by determining fluid and volume homeostasis and secreting many biologically active compounds (including enzymes and mucins). Furthermore impaired epithelial function is associated with a plethora of severe and potentially lethal diseases, such as cystic fibrosis, or acute pancreatitis, whereas malignant epithelial transformation leads to different forms of cancer. Thus, epithelial functions are extensively regulated, but the details of these regulatory pathways are not well understood. I believe that the detailed understanding of complex epithelial functions will lead to better treatment of lethal diseases therefore in my research projects I focus on the physiological and pathophysiological roles of pancreatic epithelial cells.

TECHNIQUES AVAILABLE IN THE LAB

Isolation of pancreatic acinar and ductal cells, pancreatic organoid cultures, cell culture techniques, confocal microscopy, fluorescent microscopy (intracellular pH, Ca^{2+} concentration measurements), immunofluorescent staining, cell transfection, plasmid purification, transformation, fluorescence resonance energy transfer (FRET) measurements, measurement of pancreatic ductal fluid secretion, Western blot analysis, qPCR, induction of acute pancreatitis in animals, measurement of enzyme (amylase, trypsin, myeloperoxidase, lactate dehydrogenase) activities, histological analysis.

SELECTED PUBLICATIONS

Maléth, J., Balla, Z., Kui, B., Balázs, A., Katona, M., Judák, L., Németh, I., Pallagi, P., Kemény, L.V., Rakonczay, Jr., Z., Venglovecz, V., Földesi, I., Pető, Z., Somorácz, Á., Borka, K., Perdomo, D., Lukacs, G.L., Gray, M.A., Monterisi, S., Zaccolo, M., Sendler, M., Mayerle, J., Kühn, J.P., Lerch, M.M., Sahin-Tóth, M., Hegyi, P. (2015) Alcohol Disrupts Levels and Function of the Cystic Fibrosis Transmembrane Conductance Regulator to Promote Development of Pancreatitis. **Gastroenterology** **148**: 427-39.e16.

Maléth, J., Choi, S., Muallem, S., Ahuja, M. (2014) Translocation Between PI(4,5)P2-Poor and PI(4,5)P2-Rich Microdomains During Store Depletion Determines STIM1 Conformation and Orai1 Gating. **Nat Commun** **17**: 5843.

Jha, A., Ahuja, M., **Maléth, J.,** Moreno, C.M., Yuan, J.P., Kim, M.S., Muallem, S. (2013) The STIM1 CTID domain determines access of SARAF to SOAR to regulate Orai1 channel function. **J Cell Biol** **202**: 71-9.

Pallagi, P., Venglovecz, V., Rakonczay, Jr., Z., Borka, K., Korompay, A., Ózsvári, B., Judák, L., Sahin-Tóth, M., Geisz, A., Schnúr, A., **Maléth, J.,** Takács, T., Gray, M.A., Argent, B.E., Mayerle, J., Lerch, M.M., Wittman, T., Hegyi, P. (2011) Trypsin reduces pancreatic ductal bicarbonate secretion by inhibiting CFTR Cl^- channels and luminal anion exchangers. **Gastroenterology** **141**: 2228–2239.e6.

Maléth, J., Venglovecz, V., Rázga, Zs., Tiszlavicz, L., Rakonczay, Jr., Z., Hegyi, P. (2011) The non-conjugated chenodeoxycholate induces severe mitochondrial damage and inhibits bicarbonate transport in pancreatic duct cells. **Gut** **60**: 136-8.