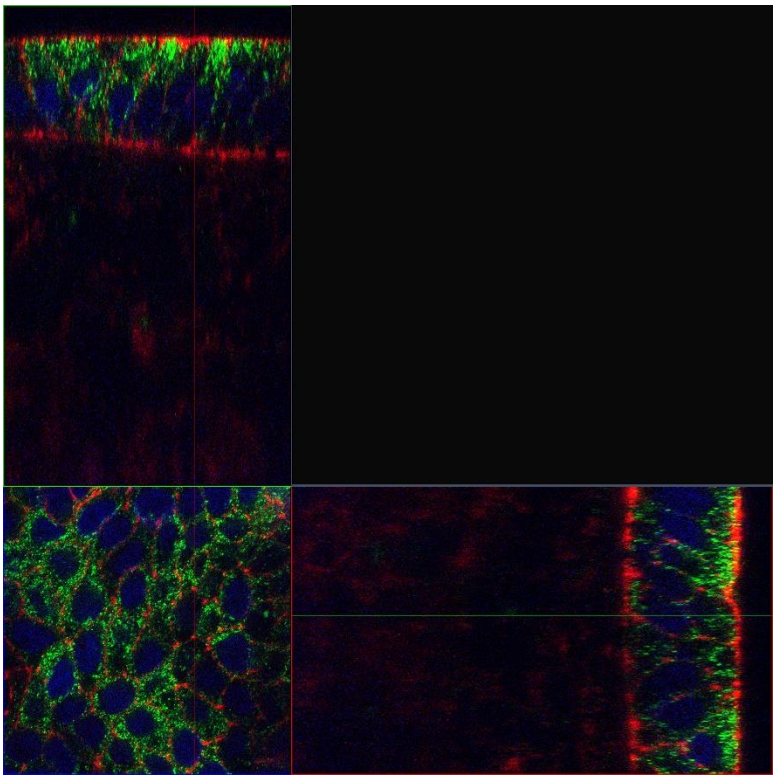
Celiac In Vitro Models



Celiac In Vitro Models Group https://research.tuni.fi/celiac-in-vitro-models/about/ is focused to develop physiologically relevant induced pluripotent stem (iPSC) cell based preclinical models for celiac disease to study the celiac pathogenesis.

Celiac small intestinal epithelial functionality at the onset of celiac disease is not entirely explained. To study that we are developing and validating the of two-dimensional celiac patient iPSC -based preclinical small intestinal epithelial cell culture model. With this apically easily accessible model we aim to assess celiac intestinal epithelial functionality when treated with celiac specific stimuli. In addition, in using the already predeveloped and characterized iPS cell lines, we have generated several new celiac patients based iPS cell lines.

The development of two-dimensional iPSC model started on January 2020. Since then, we have published an original *"Toward Xeno-Free Differentiation of Human Induced Pluripotent Stem Cell-Derived Small Intestinal Epithelial Cells"*| https://doi.org/10.3390/ijms23031312 , and review article about "*Gut-on-chip devices as intestinal inflammation models and their future for studying multifactorial diseases*" | https://doi.org/10.3389/frlct.2023.1337945

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