

INTESTINE

Miniaturized 3D intestinal system that mimics the human intestine in healthy condition and inflammatory state. The natural micro-niche allows the mutual interplay of two different compartments: the stromal (luminal) compartment and the intestinal epithelial barrier. Fully characterisation and further development are in progress.

Applications

- Simulation of Immune Bowel Disease (IBD pro-inflammatory chronic disease with subsequent barrier impairment)
- Cross talk with immunocompetent cells
- Drug metabolism
- Evaluation of mutual interaction with immuno-competent cells and “microbiota like” secretome
- Long-term experimental models with clinical relevance

Cell source:

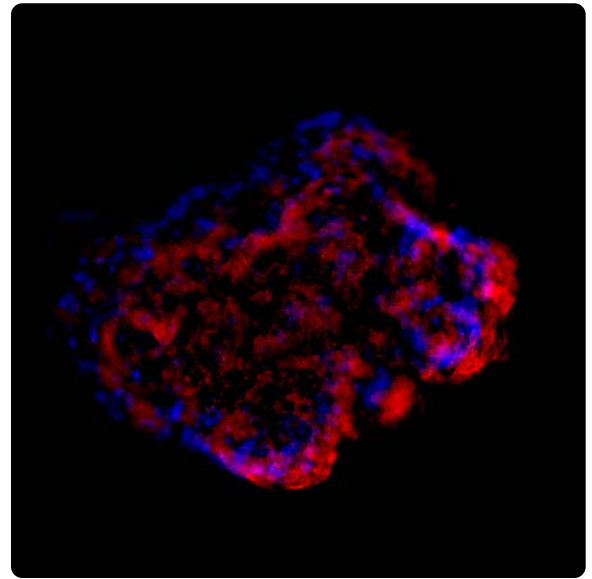
primary colonic fibroblasts cells and human epithelial colonic cells seeded in sequential co-culture to reproduce the native architecture of intestinal villi.

Shelf life:

up to 14 days

Relevance:

thanks to the two cellular types the model acquires a 3D configuration, mirroring the natural intestinal architecture based on stromal intestinal core surrounded by colonic epithelium with barrier properties.



 ZONULIN-1

 Nuclei

Posters

Francesca Rescigno and Marisa Meloni
Scaffold-Free Colonic Intestinal Spheroids: Preliminary Design for IBD Disease Modelling
Poster MPS 2022, New Orleans, USA