

Complex – more complex – most complex – but why?

In recent years in vitro systems have become increasingly complex in an attempt to better mimic potential interactions between different cell types in tissues. Such in vitro systems can consist of several cell types cultured in 3D orientation using inserts with porous membranes, membranes with a three-dimensional structure or 3D-scaffolds or in an organ-on-a-chip format. Cell models can make use of cell lines, primary cells and increasingly also iPSCs. Another level of complexity added to such models can come from the combination of in vitro models representing different organs or adding physical stress such as pressure, membrane tension or change of oxygen levels. The final questions however, is what is the added value of such increasing complexity?