

## **Organ-on-chip technology: are we ready for clinical-trials-on-chip?**

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Organ-on-a-chips have been proposed as highly innovative, truly predictive tools with limitless potential for organ function modelling, drug discovery and testing. They can recapitulate key functions of different organs by integrating relevant cell types, physical forces, (bio-)chemical concentration and gradients with unprecedented confidence, and spatiotemporally recreating physical, biological and chemical features of the target microenvironment. These systems have been introduced to the pharmaceutical industry only recently, with the aim to accelerate the drug discovery pipeline and improve the preclinical evaluation of drug candidates, showing so far only a small part of their potential in this sector.