

# World day of laboratory animals – towards replacement

Current non-animal *in vitro* alternatives offer **sophisticated, reliable, and human-relevant options** for drug testing and development

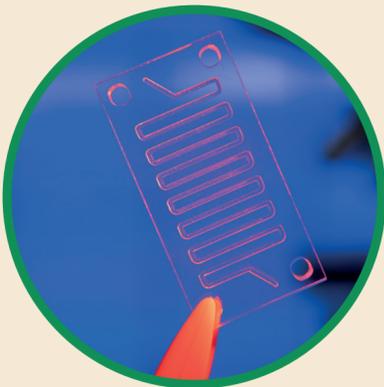


The development of **innovative cell culture technologies**

enables research and pharmaceutical companies to move away from outdated animal testing methods



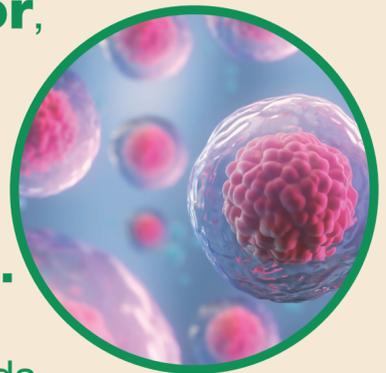
**Organs-on-a-chip** are microfluidic *in vitro* models that mimic tissues or organs with cells under mechanical stress and fluid flow



**Cell culture inserts** are used to engineer tissues for drug development and toxicology testing. They typically contain a semipermeable, porous, **track-etched membrane** that divides a chamber into two compartments



Cell culture is a **versatile tool for modeling cell behavior**, cell interaction and disease states



There is a diverse set of methods to culture human cells, namely **2D cultures, organs-on-a-chip**, and **tissue engineering**



**Tissue engineering** is the production of functional 3D tissues *in vitro*

*In vitro* cell culture-based methods are key to enable the **transition towards a human and humane science** for pre-clinical drug development, without affecting the rigor of scientific research

**#HumanAndHumane**