



## KEY RESULTS OF THE ROUND TABLE

# “OVERCOMING ANIMAL TESTING WITH ADVANCED CELL MODELS”

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Each year, millions of animals are used in scientific research across the EU, mostly for drug development and basic research. However, advanced technologies are paving the way for researchers to study human responses without relying on animal testing.

Two key innovations driving this shift are organoids (miniature, simplified versions of human organs) and organs-on-chips (tiny devices that mimic real organ functions). These models can simulate human physiology better than animal models, potentially providing more reliable results for drug testing and complex disease research. While supportive policies in the US and Europe are encouraging the adoption of these new models, regulatory and technical challenges mean the shift is still gradual.

## THE EXPERT PANEL ARTICULATES THE FOLLOWING CALLS TO ACTION:

### Prioritise development of multi-organ models.

**1 —** Leverage multi-organ models to understand complex diseases by examining interactions across multiple organ systems, overcoming the limitations of single-organ studies.

### Personalise treatments with patient-specific cells.

**2 —** Invest in the ability to use patient-specific cells to create tailored therapies, enhancing the potential for effective, individualized treatments.

### Invest in organ-on-chip advancements.

**3 —** Support the development of organ-on-chip models to better replicate complex human systems and immune responses, especially for neurological conditions.

### Accelerate regulatory implementation.

**4 —** Expedite the adoption of non-animal testing methods and reduce delays in regulatory updates.

*This expert panel is supported by Sartorius and assembled in the framework of the Falling Walls Science Summit 2024 in Berlin. The Falling Walls Science Summit is a leading international, interdisciplinary, and intersectoral forum for scientific breakthroughs. It commemorates the fall of the Berlin Wall and aims to promote dialogue between science and society.*

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