BioTechniques Spotlight

HUB ORGANOIDS

Key trends in the transition from animal to patient-derived *in vitro* models for drug discovery

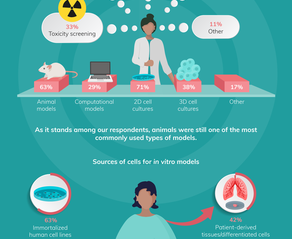
For our Spotlight on the transition from animal to patient-derived in vitro cell models, we surveyed our audience to discover how this transition is affecting their research.

3D CELL CULTURES IN DRUG DISCOVERY AND DEVELOPMENT

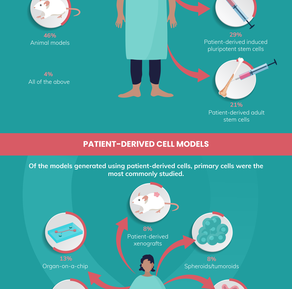
The most common challenge encountered in preclinical development programs highlighted the need to embrace more advanced disease models.

Lack of translatability from current models
50%
Shortage of patient-derived models for your disease of interest
22%
Cost
17%
Lack of validated assays/readouts
11%

Of our respondents, only one-sixth said that the US FDA Modernization Act 2.0 will have no impact on their research.

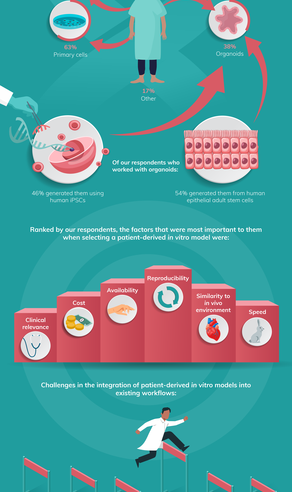


The most common stage at which our respondents utilized 3D cell models was during hit validation.



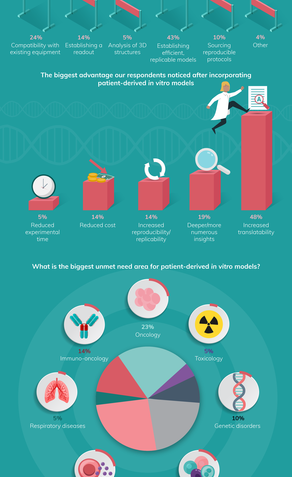
As it stands among our respondents, animals were still one of the most commonly used types of models.

Sources of cells for *in vitro* models

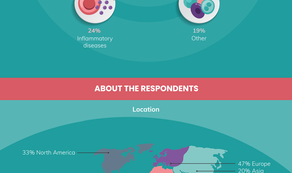


PATIENT-DERIVED CELL MODELS

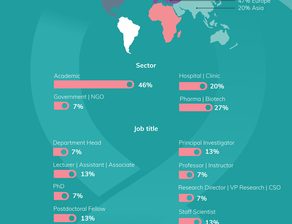
Of the models generated using patient-derived cells, primary cells were the most commonly studied.



Of our respondents who worked with organoids:



Ranked by our respondents, the factors that were most important to them when selecting a patient-derived *in vitro* model were:



Challenges in the integration of patient-derived *in vitro* models into existing workflows:

The biggest advantage our respondents noticed after incorporating patient-derived *in vitro* models

What is the biggest unmet need area for patient-derived *in vitro* models?

ABOUT THE RESPONDENTS

Location

Sector

Academic 46%
Government | NGO 7%
Hospital | Clinic 20%
Pharma | Biotech 27%

Job title

Department Head 7%
Lecturer | Assistant | Associate 13%
PhD 7%
Postdoctoral Fellow 13%
President | CEO | VP | Owner 13%
Principal Investigator 13%
Professor | Instructor 7%
Research Director | VP Research | CSO 7%
Staff Scientist 13%
Technician | Research Assistant 7%

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