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BioTechniques Spotlight

3D cell culture

Key trends in 3D cell culture

We asked respondents what words came to mind when they thought about 3D cultures

The key disease areas studied using 3D cell cultures

The most popular 3D cell cultures used were spheroids

The most common applications of 3D cell cultures

3D cell culture preparation

The majority of respondents produced their own cultures

Where do you source your 3D cultures from?

The hanging drop method proved popular among cultures produced with a scaffold-free technique

What scaffold-free technique do you use?

Of the 'other' responses, ultra-low attachment culture plates and clinostat were popular answers

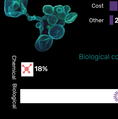
How are your 3D cultures produced?

Challenges and contaminations

It seems adapting existing techniques for use with 3D cultures is still of utmost importance as 'application with techniques initially developed for analysis with 2D cultures' was selected as the biggest challenge of working with them

What do you consider the biggest challenges of working with 3D cultures?

Biological contamination was by far the most common type of contamination encountered by users



Culture media, particularly additives, were identified as the main cause of chemical contamination

What do you consider the main causes of chemical contamination?

Accidents, mistakes and pesky microorganisms accounted for almost two-thirds of the biological contamination reported by respondents

What do you consider the main causes of biological contamination?

3D cell cultures in drug discovery and beyond

The advantages of using 3D cultures in drug discovery were hotly contested, with 'the avoidance of animal model ethical issues' selected by the highest portion of respondents

The main challenges were also hotly contended, with reproducibility highlighted by the most respondents as the biggest challenge to implementing 3D cell cultures in drug discovery

Reproducibility was also picked by the majority of respondents as one of the most important areas in need of improvement with regard to 3D cell cultures

What is the most needed improvement in 3D culture technology?

Ethically, the introduction of human-derived cultures into animal models was deemed the most contentious issue

What do you consider the biggest ethical issue in 3D culture research?

About the respondents

60% of respondents work with 3D cell cultures

Which of the following best describes your job title?

This infographic has been created as part of a BioTechniques Spotlight on 3D Cell Culture in association with Sartorius

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