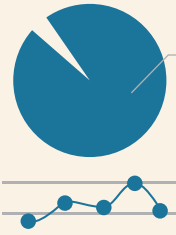


– The Evolution of –
Cell Culture
with **3D Applications**

The Problem



90% of drugs that use *in vitro* cell culture screening fail to meet the efficacy or safety margins required in clinical trials.

There are 2 major reasons for failure:

- Toxicity
- Efficacy

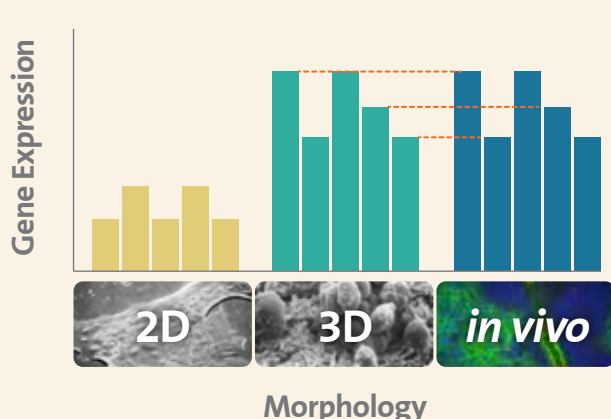
The Game Changer

2D
CELL CULTURE

plays a pivotal role in drug discovery and cell biology research, but it is limited in the context of *in vivo* conditions.

In vivo-like 3D models more effectively support biologically relevant experiments.

3D
CELL CULTURE



Cells cultured in a 2D environment:

- exhibit flattened morphology
- divide aberrantly
- lose their differentiated phenotype

When embedded in a 3D culture environment, some cell types can regain their:

- physiological morphology
- gene expression
- functionality

The Idea Applied

Advancing Cell Culture >>

3D cell culture methods have a major impact on many applications such as:



Stem Cell Culture & Differentiation



Tissue Engineering



Drug & Toxicity Screening



Cancer Cell Biology



Neurobiology

Visit www.cellculturesuccess.com to watch experiments like these in action!

The Environment

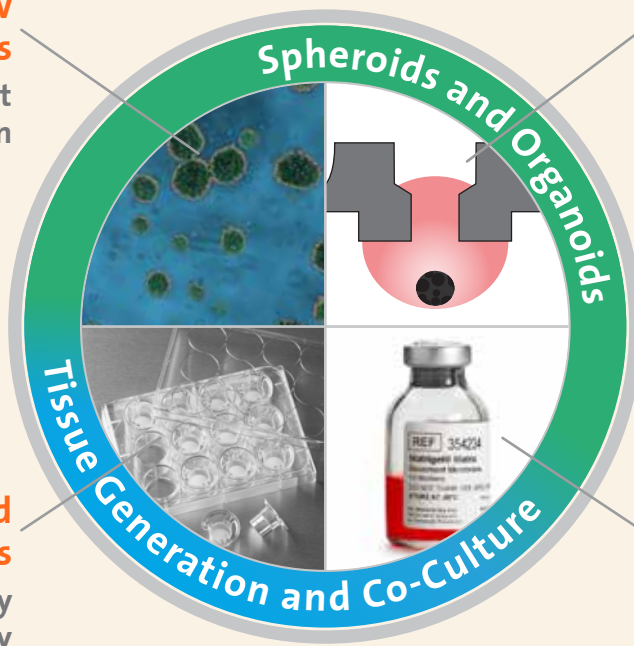
The spectrum of 3D cell culture models is vast and varied depending on your requirements, cell type and application. Each option has advantages and disadvantages. The main tools available today include:

Ultra-Low Attachment Surfaces

Promotes cell contact and sphere formation

Hanging Drop and Levitation

Enables cell contact and sphere formation



Permeable and Solid Supports

Supports structure, polarity and cell functionality

ECMs, Gels, and Scaffolds

Supports *in vivo*-like structure and functionality

There are many different techniques and approaches to perform 3D cell culture. **Download** our literature review to learn more about 3D cell culture assays and systems.

The 3D Advantage



When grown in an optimal environment, 3D cells exhibit *in vivo*-like behaviors and functionality that may not be observed in a 2D system. 3D cell culture models are more capable of recapitulating *in vivo* functionality and responses.

The Impact

Research efficiencies are realized with the potential to improve results and decrease development time lines.

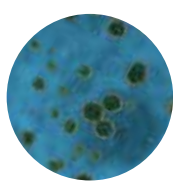


Better outcomes with new drug discoveries

3D Cell Culture is complex. Finding a trusted, experienced partner is simple. Corning Life Science's 3D cell culture products include:



Matrigel® Matrix, ECMs, and Scaffolds



Spheroid Microplates with Ultra-Low Attachment Surfaces



Transwell® Permeable Supports

Download 3D cell culture assays and systems literature

Watch experiments in action at www.cellculturesuccess.com

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