

# 3D Cell Culture Kits

Three dimensional (3D) cell cultures create an environment in which cells are permitted to grow or interact with their surroundings in a 3D fashion. 3D environments improve the function, differentiation and viability of cells and recapitulate in vivo microenvironment compared to conventional 2D cell culture experiments.

2D vs 3D Cell Culture Environments		
	2D	3D
Morphology	Elongated, flat, sheet-like	Physiological resemblance (spheroid)
Cell-Cell Interaction	Poor, non-existent	Close to in vivo interactions
Spatial Distribution	Cell monolayers	Cell multilayers
Cell-Environment	All cells are exposed equally	Outer cells from spheroids are usually only being exposed
Cell Growth/Viability	Poor, slow growth, stressed cells	Overall improved viability
Cell Cycle	Same stage	Mixture (Proliferation, quiescent, hypoxia, necrotic)
Intra-cellular Biology	"Artificial" Interactions	Close-to-Real interactions
Cell-Drug Interaction	Experiments lead to "false positives"	Spheroids are more resistant. Better predictor models in drug discovery

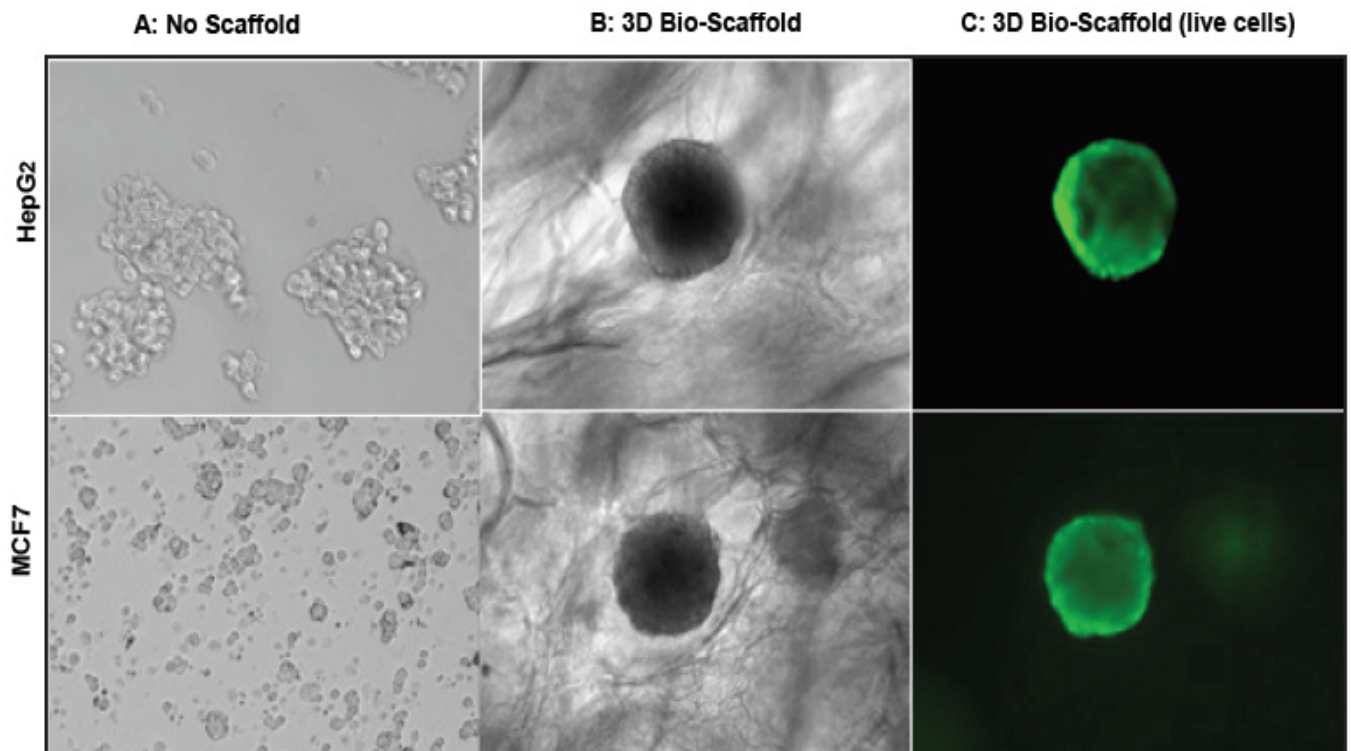


Figure 1: HepG2 and MCF7 cells in No Scaffold (A) and 3D Bio-Scaffold (B). Cells were cultured in Bio-Scaffolds (Cat. K990) for 21 days, and successfully formed spheroids. Media was changed every 2-3 days as per protocol. Calcein AM staining (C) indicates that cell viability is not affected while culturing in Bio-Scaffold for a long period of time

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BioVision is delighted to introduce its newest series of products dedicated to 3D cell culture research. Our 3D cell culture kit portfolio includes scaffold and non-scaffold environments and a Non-Enzymatic Cell Harvesting Kit.

## Key Features:

- Diverse Cell Culture environments: scaffold and non-scaffold based
- Versatile: 3D cell culture, cell isolation, protein analysis, biochemical and/or pharmacological studies using adherent and suspension cells
- High-throughput compatible: 100 Assays
- Easy and Ready to use: microplate-based assays
- Convenient: easy protocols; all reagents are included
- Cost-effective: 100 assays

Assay Kits (Size: 100 Assays)			
Product	Cat. No.	Applications	Model Type
Alginate	K517	Cell encapsulation, Drug Discovery, Tumor Model, Tissue Modeling	Matrix
Base. Membrane	K518	Co-Culture, Tumor Cell, Disease Models, Drug Discovery, Toxicity Studies	Matrix
Duo Matrix	K519	Drug Discovery, Co-Culture, Toxicity Studies	Matrix
Bio-Scaffold	K990	Tissue Engineering, Tumor modeling, Drug Discovery	Scaffold
Harvesting	K982	Spheroid dissociation for protein, biochemical and pharmacological tests	N/A

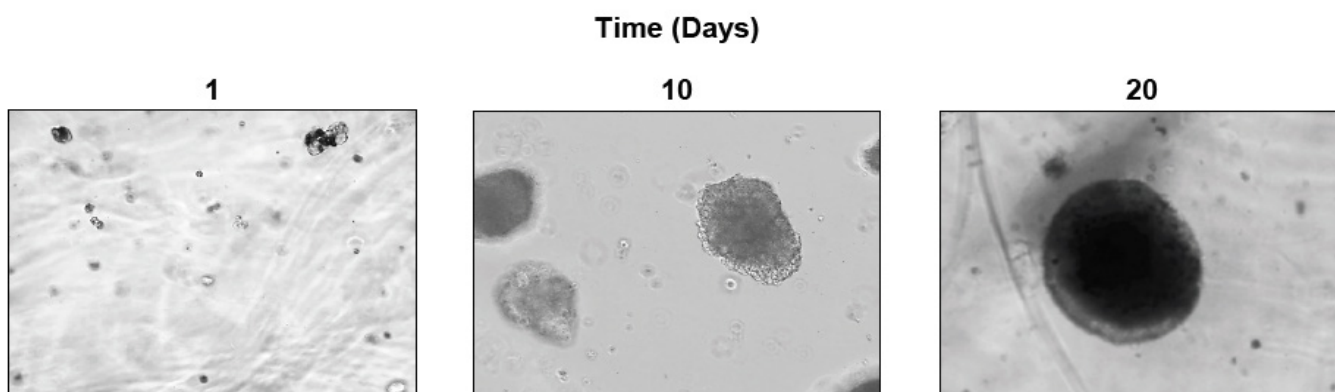


Figure 2: Time course of the development and formation of cell spheroids using 3D Cell Culture Matrix Alginate Hydrogel Kit (K517-100). HepG2 cells were culture according to the kit protocols. The formation of spheroids were seen seven days after starting the 3D culture experiments.

Please visit [www.biovision.com](http://www.biovision.com) for a comprehensive overview on Cell-Based Assay Kits!