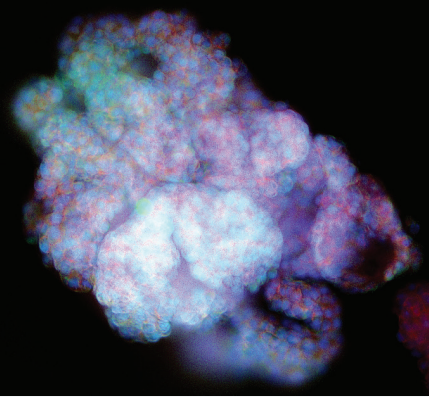


# VitroGel® ORGANOID

## Xeno-free hydrogel for organoid culture



### 25°C Room Temp Operation

Stable at room temperature.  
Easy handling. 20-min protocol.

Gelation by mixing; not  
temperature dependent.



### Multiple Organoid Types

Ideal for organoids from  
patient-derived samples, stem cells,  
tissues, co-culture and PDX resources.



### Supports Apical-out Organoid

Long-term organoid culturing  
and naturally supports apical-out  
organoids.



### Synthetic/Xeno-free

100% animal origin-free hydrogel  
system. Key for clinical applications.



### Easy Cell Harvesting

Simple and efficient cell harvesting  
with VitroGel® Organoid  
Recovery Solution.



### Automation-friendly

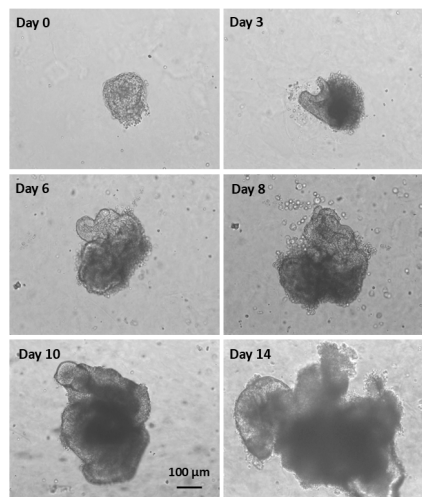
Room temperature stable for easy  
pipetting. Ideal for automation and  
high-throughput processes.



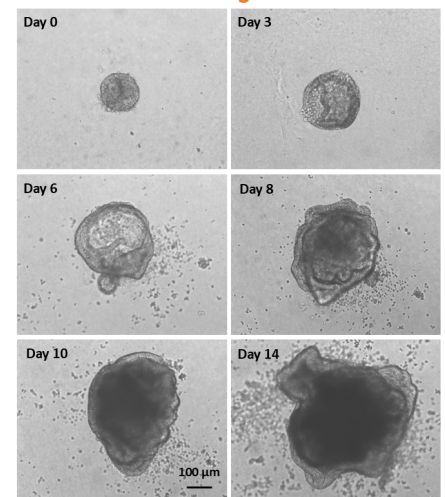
**VitroGel® ORGANOID** are xeno-free (animal origin-free) hydrogels that support the growth of patient-derived organoids or organoids developed from pluripotent stem cells (PSCs), co-culture, and PDX model.

VitroGel® ORGANOID hydrogels are ready-to-use at room temperature and have a neutral pH, transparent, permeable, and compatible with different imaging systems. The solution transforms into a hydrogel matrix by simply mixing with the cell culture medium. VitroGel® ORGANOID hydrogels are good for both 3D cell culture and 2D hydrogel coating applications.

#### VitroGel® ORGANOID

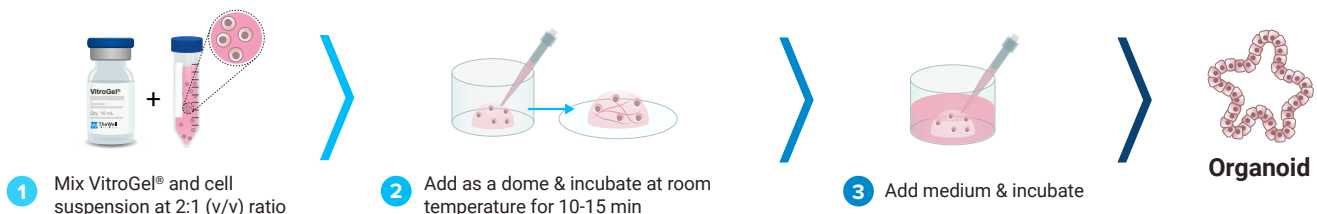


#### Matrigel®



**Figure 1. Mouse intestinal organoid culture on VitroGel® ORGANOID and Matrigel®.** Small organoids recovered from liquid nitrogen were directly seeded with VitroGel® and Matrigel®, respectively. 2D Hydrogel Coating Method was used for VitroGel®. Images show the growth of mouse intestinal organoid from day 0 to day 14.

## EASY WORKFLOW



Data and References

APICAL-OUT | VitroGel®

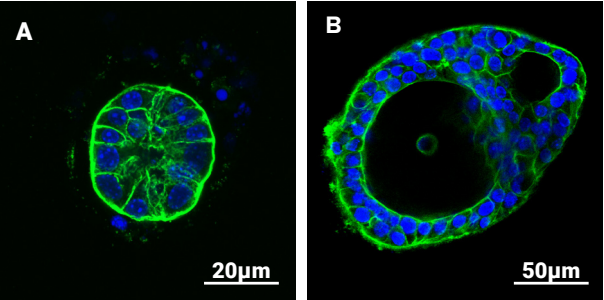


Figure 2. Apical-out organoids cultured in VitroGel® ORGANOID. (A) Indicates a young mouse intestinal organoid with apical-out polarity cultured in VitroGel® ORGANOID-3. (B) A mature intestinal organoid cultured in VitroGel® ORGANOID, maintained apical-out polarity while developing intestinal lumen structure (C) Intestinal organoid cultured in Matrigel® demonstrated apical-in polarity. Green color represents Phalloidin staining; an apical locator. DAPI (blue) - stains cell nuclei.

APICAL-IN | Matrigel®

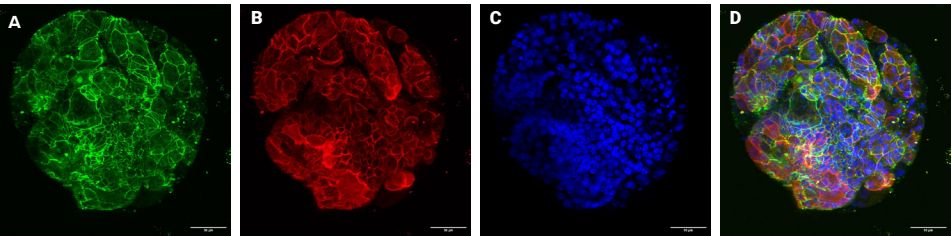
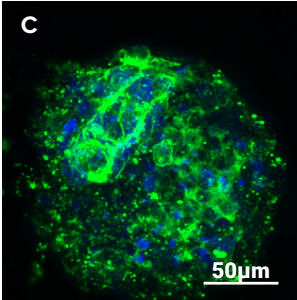
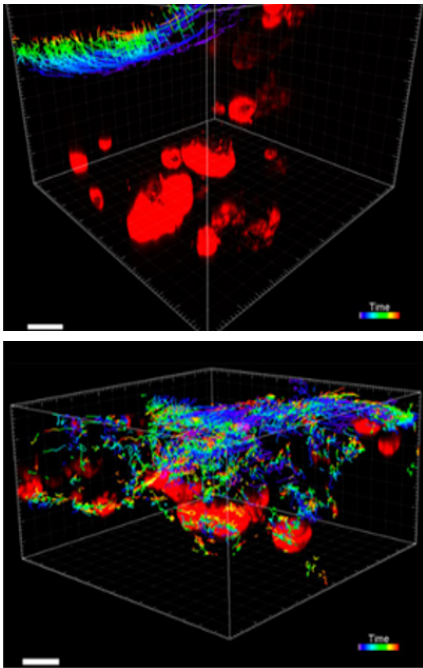


Figure 3. Mature intestinal organoids maintained structural & morphological features in VitroGel® ORGANOID. (A) A mature intestinal organoid maintained structural and morphological integrity for over 60 days. ZO-1 (green) – a tight-junction protein highly expressed in epithelial cells & important for intestinal barrier function. (B) β-catenin (red) – which is a key component of the Wnt/β-catenin signaling pathway, & essential for intestinal homeostasis. (C) DAPI (blue) – stains cell nuclei. (D) Merged image of a long-term cultured mature intestinal organoid.



(Image credit to Barkan Sidar, Michelle Cherne, Jim Wilking, and Diane Blimczok from Montana State University). Cherne et al. doi. org/10.3389/fphar.2021.707891

Figure 4. VitroGel® ORGANOID improves immune cell-epithelial interactions in a co-culture model of Human Gastric Organoids (HGO) and Dendritic Cells. VitroGel® ORGANOID improves immune cell-epithelial interactions in a co-culture model of Human Gastric Organoids (HGO) and Dendritic Cells.

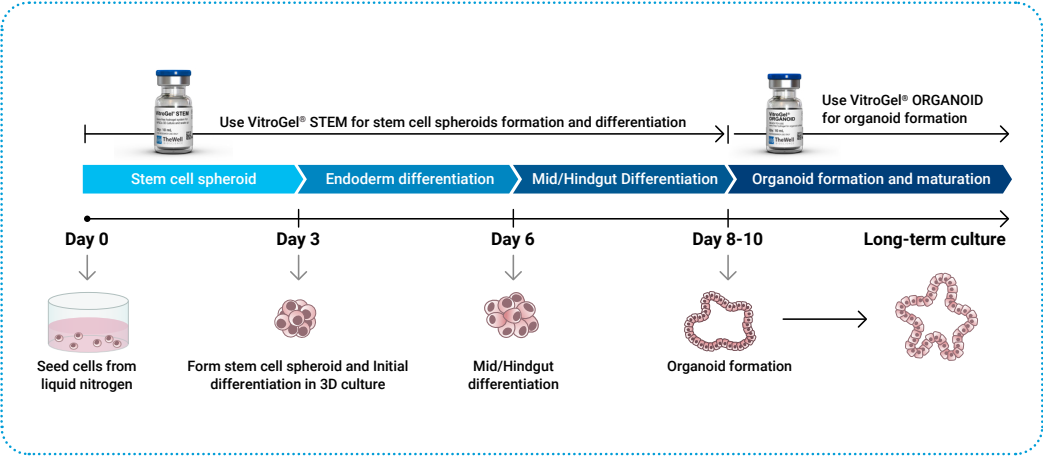
Xeno-free 3D Organoid Workflow Overview

Start from iPSC spheroids for stem cell differentiation and organoid formation.

VitroGel® offers full xeno-free protocols to grow hPSC cells to organoids, supporting the stem cell-based tissue regeneration from end to end.



thewellbio.com/  
application-notes/  
xeno-free-organoid-  
generation-workflow/



| Product                              | Cat No.  | Size     |
|--------------------------------------|----------|----------|
| VitroGel® ORGANOID-1                 | VHM04-1  | 10 mL    |
| VitroGel® ORGANOID-2                 | VHM04-2  | 10 mL    |
| VitroGel® ORGANOID-3                 | VHM04-3  | 10 mL    |
| VitroGel® ORGANOID-4                 | VHM04-4  | 10 mL    |
| VitroGel® ORGANOID Discovery Kit     | VHM04-K  | 4 x 2 mL |
| VitroGel® Organoid Recovery Solution | MS04-100 | 100 mL   |



Learn more about VitroGel® for Organoid Culture.  
thewellbio.com/applications/organoids/



Discover the 20+ advantages of VitroGel® over animal-based ECM.  
thewellbio.com/3d-cell-culture-hydrogel/comparison-vitro-gel-vs-animal-based-ecm/