VitroGel® High Concentration

TheWell BIOSCIENCE

Tunable, xeno-free hydrogels for 3D Cell Culture.
Ability to create your own ECM | The Mix & Match System.

Room temperature operation

Room temperature protocol/ operation. No ice bucket required.

Tunable - hydrogel strength

↑↓ Pa

Adjust the hydrogel strength from 10 Pa to over 20,000 Pa to create the optimal cell environment.

Easy-to-use

No cross-linking agent required. Adjust hydrogel with Dilution Solution, mix with cells, add medium and incubate.

Transparent

Excellent for imaging systems for cell observation.

Xeno-free

100% animal origin-free hydrogel system.

Mix & Match

Build and create a customized multi-functional hydrogel by blending different types of VitroGel® together.

Easy cell harvesting - 20 min protocol

Use our enzyme-free cell recovery solution to harvest cells safely & fast while maintaining high cell viability.

Injectable

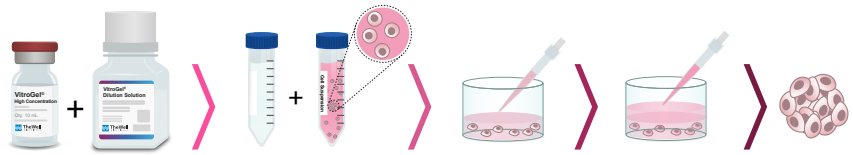
Long-term injectability after gelation without needle clogging.

VitroGel® High Concentration are xeno-free, tunable systems designed for researchers seeking full control over the biophysical and biological properties of the cell culture environment. The tunability of these hydrogels allows for the creation of an optimized microenvironment to support various cell types and applications. The solution transforms into a hydrogel matrix by simply mixing with the cell culture medium, no cross-linking agent is required. Cells can be easily harvested from the matrix, and the hydrogel is injectable, making it suitable for both *in vitro* and *in vivo* studies.

- **Choose hydrogels with functional ligands such as RGD, collagen, laminin and MMP.**
- **"Mix & Match" Unique to the VitroGel® system is the ability to customized multifunctional hydrogel by blending different types of VitroGel® together.**

3D cell culture process in 20 minutes

(includes a 10-15 min waiting time for hydrogel stabilization)



1. Adjust concentration
2. Add cells.
3. Wait 10-15 min (gelation).
4. Add top medium and incubate.

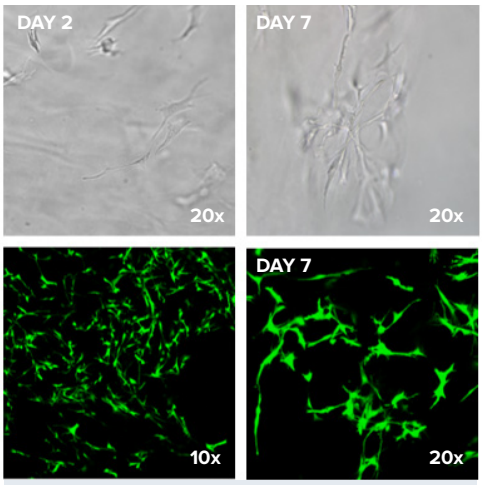


Figure 1. 3D culture of OP9 cells in VitroGel® RGD.

Hydrogel was prepared at 1:3 dilution with VitroGel® Dilution Solution (TYPE 1). The images were taken on days 2 and 7. VitroGel® RGD shows support for OP9 cell proliferation and cell-cell communication. The stronger cell-matrix interactions help the cells to form the cell-networking structure.

mix & match

Over 100 possible combinations

Create Your Own Advanced ECM for 3D Cell Culture!

3D cell culture your way! Design over 100 possible combinations to study the biological and biophysical properties of the cell culture environment. Each of the six tunable VitroGel® hydrogels can be “mixed and matched” with each other to create a customized multi-functional hydrogel for different applications.

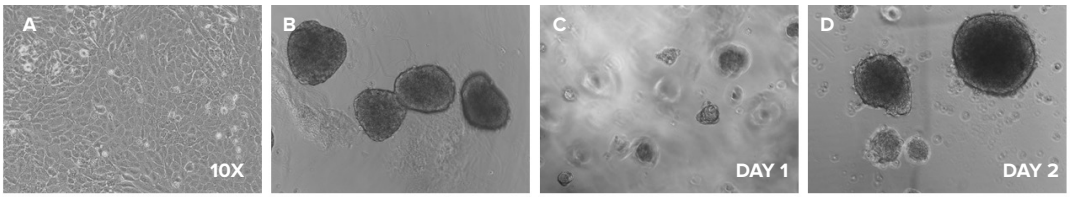


Figure 2. Beta Lox 5 (BL5) cells 3D culture in VitroGel® 3D system. A. BL5 cells culture on the surface of regular tissue culture treated well plate (control); **B.** Normal human islets grew in suspension culture (comparison); **C.** 3D culture of BL5 cells in VitroGel® 3D at Day 1; **D.** 3D culture of BL5 cells in VitroGel® 3D at Day 7. Under 3D culture of VitroGel® 3D, BL5 cells form islet-like structures very similar to normal human islets. The hydrogel is prepared at 1:3 dilution. The images were taken at 10X magnification.

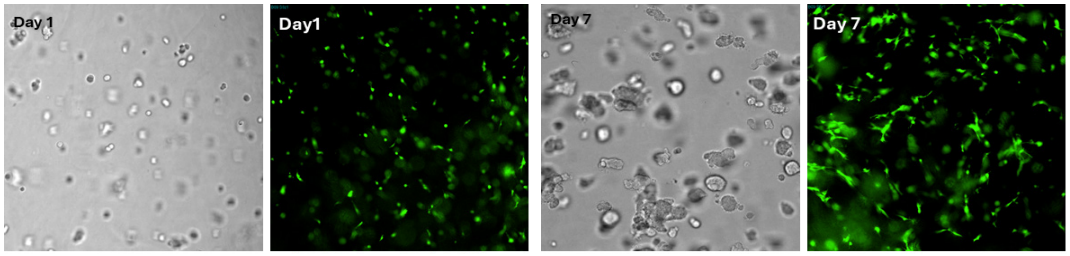


Figure 3. 3D culture of mouse bone marrow stromal cells (OP9 mesenchyme) in the mixture of VitroGel® COL. Cells were cultured with 1:5 diluted VitroGel® COL The single cells were suspended in hydrogel matrix (Day 1) and extended to form a fibroblast-like cell-matrix structure (Day 7).

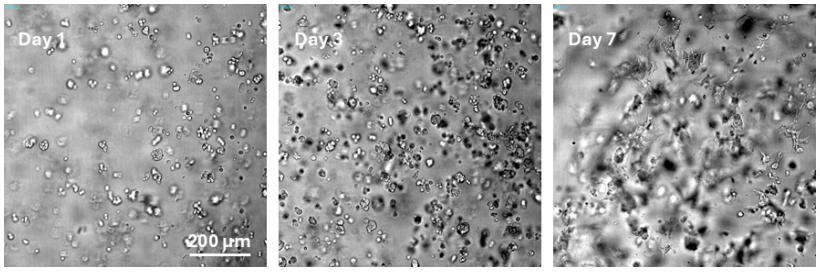


Figure 4. 3D culture of glioblastoma cells (SNB 75) in VitroGel® MMP. Cells were cultured with 1:3 diluted VitroGel® MMP according to the user handbook (50% FBS was used to prepare cell suspension to achieve hydrogel with a final 10% FBS concentration).

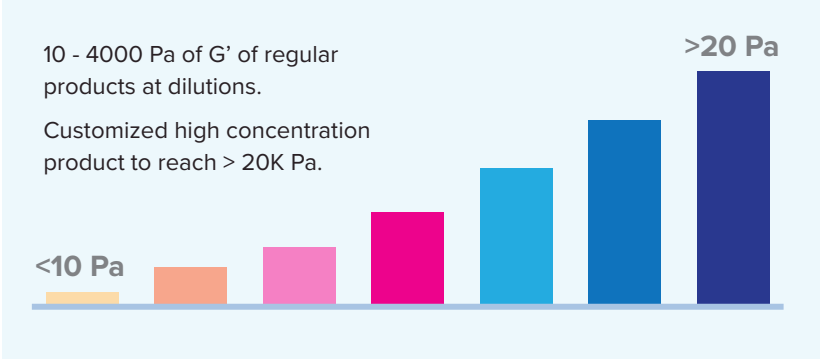
All VitroGel® High Concentration Kits come with:

- VitroGel® High Concentration Hydrogel
- VitroGel® Dilution Solution (Choose from TYPE 1 or TYPE 2)

Learn more about **VitroGel® High Concentration Hydrogels**

thewellbio.com/tunable-hydrogels/

Tunable hydrogel strength



Product	Cat No.	Size
VitroGel® 3D High Concentration	TWG001 TWG001-2	3 mL
VitroGel® RGD High Concentration	TWG003 TWG003-2	3 mL
VitroGel® IKVAV High Concentration	TWG007 TWG007-2	3 mL
VitroGel® YIGSR High Concentration	TWG008 TWG008-2	3 mL
VitroGel® COL High Concentration	TWG009 TWG009-2	3 mL
VitroGel® MMP High Concentration	TWG010 TWG010-2	3 mL
VitroGel® Organoid Recovery Solution	MS04-100	100 mL

TheWell BIOSCIENCE
3D Cell Culture and Beyond

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