



Home for Cells and Beyond

PGbioInk™ Using Guides

The **PepGel PGbioInk™** kit consists of a vial of **PGbioInk** patented peptides nanofiber solution and a vial of **PGworks** trigger solution and a growth kit (optional). The PGbioInk nanofibrils are formulated into a basic or a customer desired cell medium in neutral pH. A 3D microenvironment can be formed accordingly for cell performance. With PGbioInk, cells no longer suffer acidic or chill conditions; all operating and growth procedures can be completed at room temperature or 37°C in neutral pH.

PRODUCT:	PepGel PGbioInk™ Research Kit
CONTENT:	PGbioInk solution and PGworks solution
QUANTITY:	20 mL of PGbioInk and 4 mL of PGworks or 10 mL of PGbioInk and 2 mL of PGworks 6 mL of PGbioInk and 2 mL of PGworks 2 mL of PGmatriax and 0.5 mL of PGworks
STORAGE:	Stored at 4°C
LOT NUMBER:	See product label

FOR IN VITRO RESEARCH USE ONLY. PLEASE READ MATERIAL USING AGREEMENT FOR MORE DETAILS.

CONTACT:	PepGel LLC
	101 BIVAP Bldg. 1980 Kimball Ave Manhattan, KS 66506 E-mail: info@pepgel.com Phone: 785-477-8642 Fax: 785-532-7193 Web: www.pepgel.com

To Order: customerservice@pepgel.com, or online www.pepgel.com



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FOR FIRST TIME USER, PLEASE READ THE FOLLOWING THREE MESSAGES

MESSAGE I: Mixing Ratio Notice

The PGbioInk solution contains 4% W/V standard peptides. If you are first time user, we recommend using 2-3 mixing ratios in the range of 2-3% W/V final peptide concentration for 3D cell encapsulation to identify the best mixing ratio for your cells. The following **Table 1** presents two mixing ratios at 1%, 2% and 3% concentration as example, respectively. Please use the following table as reference to mix PGbioInk solution and cell suspension.

Remember: add the PGworks to your cell suspension FIRST before you mix PGbioInk solution with cell suspension. If you still have questions, please contact technical support by email to customerservice@pepgel.com

Table 1: Examples of Mixing ratios of PGbioInk solution, cell suspension and PGworks* solution.

Final concentration	PGbioInk solution (µL)	Cell suspension (uL)	PGworks (uL)	Total volume (uL)
3%	75	13	12	100
2%	50	42	8	100
1%	25	61	4	100

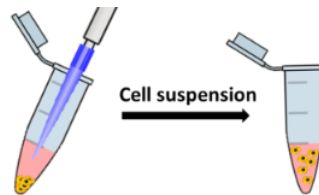
* PGworks is always 12% of the total volume of PGbioInk solution.

** Cells will not perform well without appropriate growth factors, it is users' preference what growth factors are needed for their cells, or contact customerservice@pepgel.com for suggestion.

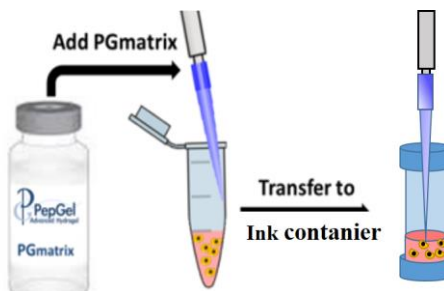
A. Protocols for BioInk preparation for 3D Bioprinting

I CELL ENCAPSULATION

1. Bring the PGbioInk solution and PGworks solution to room temperature (15 - 25 °C) or 37 °C (37 °C water bath)
2. Suspend cells in desired cell culture medium with appropriate growth factors then add PGworks solution to the cell suspension according to the Mixing Ratio in **Table 1** on page 2, pipet well without introducing air bubbles (always immersing pipet tip in cell solution during pipetting).



3. Mix the PGbioInk solution carefully into the cell suspension of step 2 at the Mixing Ratio indicated in **Table 1** on page 2 (pipet well without introducing air bubbles). Transfer the mixture into the center of the ink container. (**Note:** Please select the PGbioInk solution accordingly that matches your cell culture medium or contact PepGel for special medium requirement by email to customerservice@pepgel.com).



4. Incubate the ink container at 37°C (5% CO₂) for 30min to complete the gelation. Then it should be ready for bioprinting.

REFERENCE

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