

**Directions for Use of
Sterile Ready-to-Use Poly(ethylene glycol) diacrylate (PEGDA) Starter Solution
Ink**

+Storage/Shelf Life

This product ships with a cold pack. Upon receipt, store the PEGDA solution ink at room temperature. This product should be kept from moisture and light (including ambient light).

+Concentration

The concentrations of PEGDA and photoinitiator (LAP) are found on the website.

+ Bioprinting Protocol

The aim of this protocol is to provide instructions for bioprinting with the PEGDA solution ink using the BIONOVA X 3D bioprinter. This is an example procedure that may be adjusted accordingly to the intended application.

1. Gently shake well the PEGDA solution ink before use (avoid air bubbles).

2. Bioprinting on BIONOVA X bioprinter:

2.1 Power on the BIONOVA X bioprinter, sterilize the printer for desired time when the sliding door of the printer is closed.

2.2 Once the UV sterilization process is completed, open the sliding door and load the sterile BIONOVA X printing probe.

2.3 Load proper volume of the PEGDA solution ink to a sterile BIONOVA X multi-well plate by using a pipette.

***Note 1:**

Choose the printing probe to match the desired multi-well plate. The volume of the bioink should not exceed the maximum volume suggested in the following table:

Printing probe and well plate used	6-well probe and 6-well plate	12-well probe and 12-well plate	24-well probe and 24-well plate
Maximum volume of bioink for each well (ml)	8.6	3.4	1.3

2.4 Load the well plate onto the plate tray of BIONOVA X bioprinter.

2.5 Load a previously saved printing Project or create a new Project to print the desired scaffold.

***Note 2:**

- When printing with PEGDA solution ink, the recommended printing motion speed is 0.01-0.05 mm/s.
- The light exposure conditions should be adjusted accordingly to your own application. Recommended light intensity is 50%-100%.
- In general, the crosslinking density of the hydrogels will increase with higher light intensity, longer exposure time, and higher concentrations of bioink and photoinitiator. Increased crosslinking density will result in a stiffer hydrogel.
- Please refer to the Manual of BIONOVA X for more information regarding the printing setup.

3. After the bioprinting:

3.1 Open the sliding door and carefully remove the well plate from the plate tray of BIONOVA X.

3.2 Gently remove the uncured ink solution from the wells and gently rinse the printed samples with desired buffer solution. The printed samples are ready for culturing, imaging or assaying.