

# Corning<sup>®</sup> Matribot<sup>®</sup> Bioprinter

Bioprinting fabricates a 3D tissue-like construct, layer-by-layer using cells, spheroids, or organoids suspended in a bioink.<sup>1</sup> Bioprinting makes it possible to reproduce structural features seen *in vivo* and explore the cell-to-cell relationships that affect tissue functionality.<sup>2</sup>

The new Corning Matribot bioprinter is a breakthrough benchtop device that enables you to dispense and print with temperature-sensitive hydrogels such as Corning Matrigel matrix and Collagen without cold blocks, ice buckets or cold room, as well as hydrogels that require ambient temperature. Unlike other bioprinters, the Matribot bioprinter uses a syringe-based extrusion platform with a temperature-controlled printhead, insulated nozzles, printbed that can be heated, and a UV LED system, all staged in a small footprint.



## Features and Benefits

- ▶ **Convenient, Steady Temperature Control** – Dispenses a variety of materials without the need for a compressor. The syringe printhead can accommodate a variety of different materials from Corning Matrigel matrix to Collagen, as well as other ambient-temperature bioinks such as Alginate-based hydrogels, and can dispense into a variety of vessels including multiwell plates, Petri dishes, and microplates as small as 384-well, with high precision and control.
- ▶ **Lab-standard Equipment** – No need for special cartridges or custom tubing. Inks for bioprinting are also available in syringe format with standard luer locks for convenient cell mixing.
- ▶ **Cooling Syringe Printhead** – The cooling syringe printhead can chill material, perfect for when using temperature-sensitive ECM materials such as Corning Matrigel matrix. The printhead is designed to hold material steady at the desired temperature, while the bioprinter's insulator helps to reduce clogs at the nozzle tip.
- ▶ **Heated Printbed and UV Curing System** – Pre-heat the printing surface or polymerize post-print with the heated printbed, which is ideal for maintaining print structure for low viscosity materials such as Matrigel matrix or Collagen. The unit also contains a 405 nm LED curing system for inks that require UV crosslinking.
- ▶ **Compact Footprint and Easy to Clean** – The compact design allows the Matribot bioprinter to easily fit into a standard lab hood or biosafety cabinet (BSC). Its exposed surfaces are cleanable with 70% ethanol or other standard lab disinfectants and lint-free lab wipes.

## Consumables

Corning Standard conical bioprinting nozzles are made from polypropylene, have a female Luer connector, and available in 22G, 25G, and 27G.

- ▶ **Calibration** – Offers both automatic calibration using a surface probe or contact-free manual calibration.
- ▶ **System Flexibility** – The software accepts STL, OBJ, or AMF files and supports both Windows<sup>®</sup> (XP 32 bit/7+) or macOS X (10.6 64bit/ 10.7+) operating systems. Alternatively, users can also run custom G-code files directly on the unit using the SD card input and LCD interface.
- ▶ **Explore the World of 3D with Easy-to-use Functionality** – The user-friendly Corning DNA Studio software enables you to adjust several parameters in order to optimize dispensed volumes and printed structures for your application. Pre-loaded software programs are included that are easy to use. Bioprint layered geometries to better emulate *in vivo* environments for 2D and 3D cell culture applications.

## Inks for Bioprinting

**Corning<sup>®</sup> Pluronic sacrificial ink (40%)** is a ready-to-print sacrificial and support ink that exhibits excellent printability. It is easy to remove once printed by washing with cold PBS. Pluronic sacrificial ink has been used for the fabrication of vascularized tissues<sup>3</sup>, channels in microfluidic devices<sup>4</sup>, and supporting scaffolds for complicated tissue constructs.

Corning Pluronic sacrificial ink can also be diluted to 25% v/v with water and used as a learning tool to mimic dispensing of temperature-sensitive hydrogels.

**Corning Start sacrificial ink** is a water-soluble gel used as a sacrificial material and ink for educational purposes. Ideal for evaluating the printing of complex structures, prior to printing with human cells.

Refs	Description	Qty/Cs
041-840470	Corning Matribot bioprinter with starter package	1
041-006157	Corning Pluronic sacrificial ink, 2.7 mL/syringe	5
041-006159	Corning Start sacrificial ink, 2.7 mL/syringe	10
041-006165	Corning Standard conical bioprinting nozzles, 27G-200 µm (clear)	50
041-006166	Corning Standard conical bioprinting nozzles, 25G-250 µm (red)	50
041-006167	Corning Standard conical bioprinting nozzles, 22G-410 µm (blue)	50



Book your free demo in your lab now !  
 Contact your Life Sciences Specialist !

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