READYPCL INX© X100

Printing with the speed of light

READYPCL INX© is an advanced polyester-based synthetic resin specifically engineered for volumetric bioprinting applications. It is designed to support the creation of intricate, centimeter-scale 3D structures with exceptional ease and precision.

Its biocompatible and biodegradable properties make it suitable for biomedical applications, particularly in tissue engineering and regenerative medicine. Following volumetric printing, the material can be readily seeded with cells.

PROPERTIES & PROCESSING

READYPCL INX© is provided as a ready-to-use formulation eliminating the need for time-consuming preparation steps. Some physical characteristics of READYPCL INX© are listed in Table 1. At the end of the printing, the structures exhibit a storage modulus in the range of 1 – 5 MPa. The resin can be printed into structures with a resolution down to 100 µm. Example structures printed using READYPCL INX are demonstrated in Figure 1.

Table 1: Physical properties and processing parameters of READYPCL INX©

Storage modulus after printing	1 – 5 MPa
Viscosity (20 °C)	5 – 20 Pa.s
Refractive Index	1.46 – 1.48
Positive Resolution	100 µm
Negative Resolution	200 µm
Required dose for printing	1150 – 1500 mJ/cm2

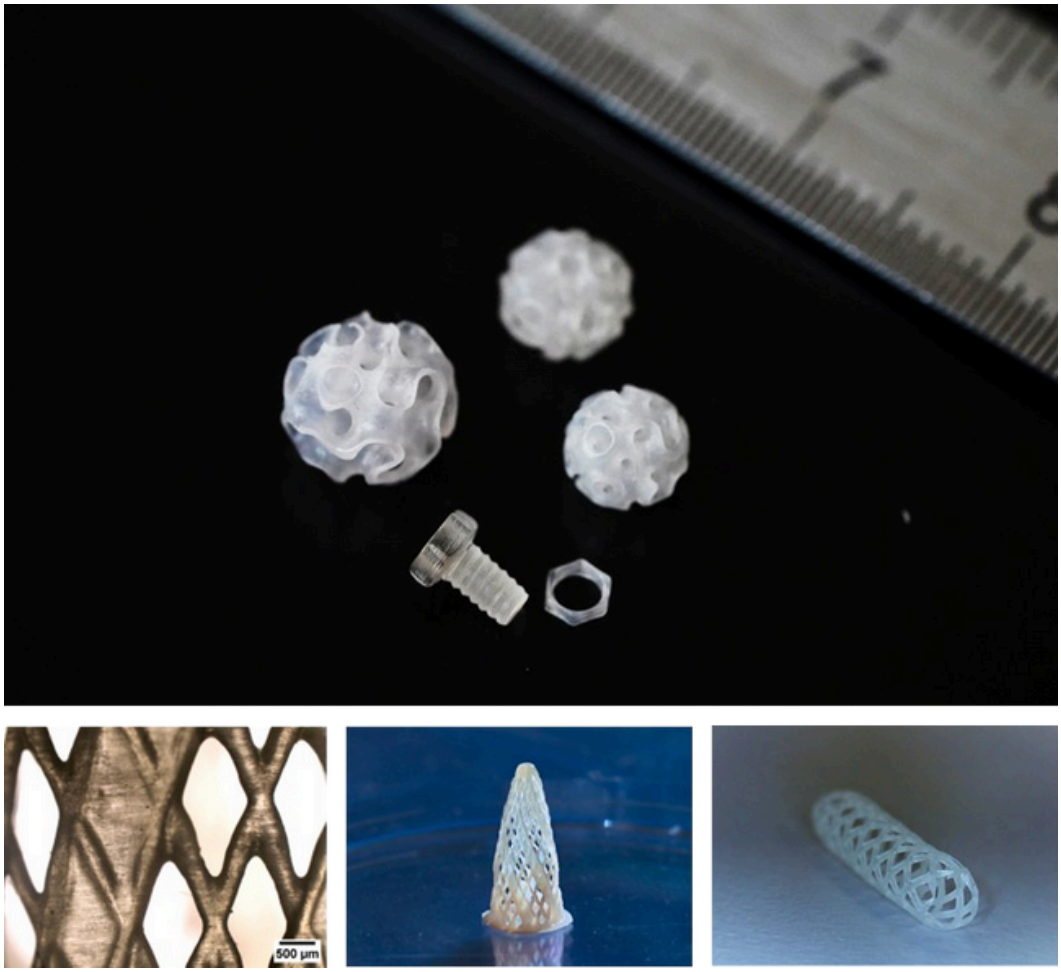

Figure 1: 3D structures printed using READYPCL INX©

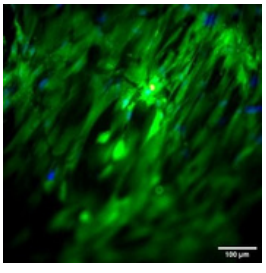

Figure 2 *Post-printing cell seeding on READYPCL INX© constructs.* Following volumetric bioprinting, READYPCL INX© substrates were successfully seeded with human dental pulp stem cells (hDPSCs), demonstrating excellent cell attachment and viability. The figure shows representative fluorescence microscopy images captured on day 14 of culture. Cells were stained with calcein AM (green, live cells), propidium iodide (red, dead cells), and Hoechst (blue, nuclei) to assess viability and spatial distribution.

BENEFITS OF READYPCL INX©

√	Biocompatibility	Biocompatible with no toxic effect on the cells
√	Cell interactivity	Suitable for cell seeding
√	Easy Handling	Provided as a ready-to-use solution
√	High speed	Provides rapid printing via VBP technology
√	Reproducibility	Production under strict quality control

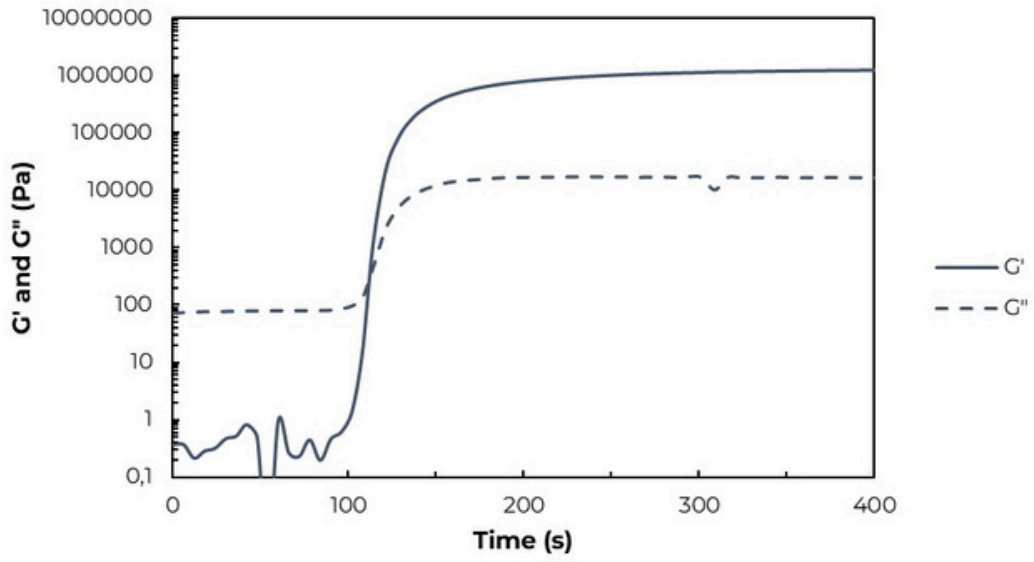

Figure 3: Storage (G') and loss (G") modulus of READYPCL INX© during irradiation with light (400 – 500 nm)

3D PRINTER COMPATIBILITY

READYPCL INX X100 has been used repeatedly and successfully with the following printer:

- Tomolite v2 (Performance) – Readily3D

If you would like to discuss your printer's compatibility with our bioinks, please contact us at info@bioinx.com