



GrowInk™ Bioinks for 3D printing

Our GrowInks are animal free, biocompatible, ready-to-use hydrogels that can be mixed directly with cells for bioprinting applications. The two main components in GrowInks are nanofibrillar cellulose and water, providing you with a fully defined matrix. The matrix can be customised by the addition of molecules, such as growth factors or adhesion proteins, as needed by your specific cells.

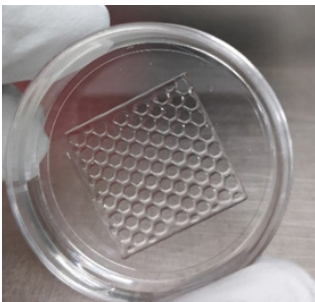
Convenient and customisable

The GrowInks mimic the in vivo environment supporting cell growth and differentiation. Over 150 different cell types have been cultured in nanofibrillar cellulose. GrowInks can be diluted to provide a wide range of viscosities that can be matched to the requirements of your cells. GrowInks are room temperature stable and can be used with or without a crosslinking agent depending on your application, but all enable cell printing layer-by-layer with high-precision cell positioning.

Compatible with many 3D Printers

GrowInks have shear-thinning properties, flow under force for easy printing, but gel once printed retaining shape and structure. They are particularly suited to extrusion bioprinting giving high printing accuracy. GrowInks offer flexibility and have been used with many commercial and homemade bioprinters such as:

- 3D-Bioplotter® (EnvisionTEC GmbH)
- Rastrum 3D Bioprinter (Inventia Life Science)
- NGB-R™ Bioprinter (Poietis)
- Incredible+™ and Bio X™ (Cellink AB)
- 3D Discovery™ (regenHU Ltd)
- Brinter™ (3DTech OY)
- Rokit Invivo (Rokit Healthcare)



GrowInk-T printed with EnvisionTEC 3D-bioplotter®.



GrowInk Product Range Specifications

Property	GrowInk™-N	GrowInk™-T	GrowInk™-ALG
Composition	Nanofibrillar cellulose	Anionic nanofibrillar cellulose	Nanofibrillar cellulose plus alginate
Visual appearance	Opaque gel	Transparent gel	Opaque gel
Sterility	Sterile	Sterile	Sterile
Endotoxins	< 5 EU/ml	< 5 EU/ml	< 5 EU/ml
Cell viability (HepG2)	Tested	Tested	Tested
Viscosity (TA Hybrid Rheometer HR-1, frequency flow sweep)	1-55 000 Pas	1-45 000 Pas	1-30 000 Pas
pH	6.5 ± 0.5	6.0 ± 0.5	7.0 ± 0.5
Storage temperature	4-22 °C	4-22 °C	4-8 °C

GrowInk Ordering Information

Cat. No.	Product	Quantity
GINK-N250-002	GrowInk™-N Bioink	2.5 ml
GINK-N250-005	GrowInk™-N Bioink	5.0 ml
GINK-N250-010	GrowInk™-N Bioink	10.0 ml
GINK-T200-002	GrowInk™-T Bioink	2.5 ml
GINK-T200-005	GrowInk™-T Bioink	5.0 ml
GINK-T200-010	GrowInk™-T Bioink	10.0 ml
GINK-ALG-002	GrowInk™-ALG Bioink	2.5 ml
GINK-ALG-005	GrowInk™-ALG Bioink	5.0 ml
GINK-ALG-010	GrowInk™-ALG Bioink	10.0 ml

For Research Use Only. Not for use in diagnostic or therapeutic procedures.