

Specification Sheet

GelMA FIBRIN

Product description	GelMA FIBRIN with incorporated fibrinogen is designed to provide relevant biological and mechanical signals for endothelial cells. Crosslinks through photocuring and thrombin-fibrinogen interaction. Recommended for use with BIO X temperature-controlled printhead and cooled printbed, or for use with INKREDIBLE+ and heated printhead. For description on how to mix with cells, bioprint and crosslink, follow the Bioprinting Protocol .
Intended use	Biocompatible material for 3D bioprinting, <i>Research Grade</i> . For research use ONLY. Not intended for <i>in vitro</i> diagnostics or <i>in vivo</i> uses. Not intended for administration in humans or animals. Produced under sterile and aseptic conditions.
Product number	IKG106L3
Shelf life	2 months, expiration date stated on package.
Storage and handling	Store at 4-8°C. DO NOT FREEZE. Avoid temperature fluctuations. Ensure that the bioink container is capped prior to storage to prevent drying.
Safety	Handle in accordance with good hygiene and laboratory safety practices. Read Safety Data Sheet for more information regarding ingredients and potential hazardous compounds.
Related documents	Bioprinting Protocol as well as Safety Data Sheet can be downloaded from our website https://cellink.com/product/gelma-fibrin/ or scan the QR code below.



Property	Specification	Method
<i>Appearance</i>	Clear amber gel	Visual inspection.
<i>Sterility</i>	Sterile	Tested for the presence of bacteria, fungi and yeast. Tested on raw material.
<i>Endotoxin level</i>	<50 EU/mL	Limulus Amoebocyte Lysate assay, Pharmacopoeia 2.6.14 "Bacterial endotoxins": Method D, accredited by SWEDAC. Accreditation Certification 1240: ISO 15189, 2010-11-22. Tested on raw material.
<i>Cell viability</i>	≥75% live cells	3D cell culture performed with human umbilical vein endothelial cells (HUVECs) for 7 days.
<i>pH</i>	6.5-7.4	Assessed with pH meter.
<i>GelMA degree of methacrylation</i>	45-55%	¹ H NMR performed at room temperature, acquired with a spectral width of 8013 Hz, or 16 ppm, averaged over 64 scans using 64K time domain points. Acrylate peaks present at 5.4 and 5.6, methyl at 1.9 ppm.
<i>Viscosity</i>	53 Pa·s (± 14 Pa·s)	At a shear rate of 1 s ⁻¹ . Tested using rotational 20 mm plate-plate HR-2 TA Instruments Rheometer. Flow sweep parameters: shear rate at 0.002 s ⁻¹ to 500 s ⁻¹ , 23°C.