

Specification Sheet

GelMA HA

Product description	GelMA HA incorporates methacrylated hyaluronic acid into our GelMA Bioink. The bioink is ready-to-print and can be easily photocrosslinked through photoinitiator activation (LAP at 0.25%). Recommended for use with BIO X, the Temperature-controlled Printhead and a heated print bed. 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	IK3HA001
Shelf life	Minimum 7 weeks, expiration date stated on package.
Storage and handling	Store at 4-8°C. DO NOT FREEZE. Protect from light and 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-ha/ 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 materials.
<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 materials.
<i>pH</i>	6.5-7.4	Assessed with pH paper.
<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>HAMA degree of methacrylation</i>	15-25%	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 5.6 and 6.0, methyl at 1.8 ppm.
<i>Gelation temperature</i>	20-24°C	Tested using rotational 20 mm plate-plate HR-2 TA Instruments Rheometer. Temperature sweep from 40°C-15°C, at 1% strain and 10 rad/s angular frequency.