

Materials List for:

Viability of Bioprinted Cellular Constructs Using a Three Dispenser Cartesian Printer

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Materials

| Name | Company | Catalog Number | Comments |
|--|-----------------------------------|----------------|--|
| Positioning Robot (JR2000 XYZ) | Janome | | |
| Dispensers: SDAV Linear Drive SmartDispensers | Fishman Corporation | | |
| Optical Light Sensors: | Keyence | | |
| Displacement Laser: OD Mini | SICK | | |
| Recirculating Water Bath: Polystat | Cole-Parmer | EW-12122-02 | |
| USB Cameras: Dino-Lite Premier 5MP | AnMo Electronics/YSC Technologies | AD7013MT | |
| Printer-Compatible Computer Design Software: JR-C Points | Janome | | Comes with purchase of Janome Robot |
| Computer-Aided Design Drawing Software: Visual PathBuilder | RatioServ | | Can be downloaded at: www.ratioserv.com/index.php/downloads |
| Printer 3 cc Syringes: | Fishman Corporation | 122051 | |
| 22 G Dispenser Tips | Fishman Corporation | Z520122 | |
| Calcium Chloride Dihydrate | Sigma-Aldrich | 10035-04-8 | |
| Sodium Chloride | Sigma-Aldrich | 7647-14-5 | |
| Porcine Gelatin | Sigma-Aldrich | 9000-70-8 | |
| Titanium Dioxide | Sigma-Aldrich | 13462-67-7 | |
| Protanal LF 20/40 Alginate (Sodium Alginate) | FMC BioPolymer | 9005-38-3 | |
| Hydrochloric Acid | Sigma-Aldrich | 7647-01-0 | |
| Ethylene Glycol | Mallinckrodt Baker, Inc | 9300-01 | |
| Sodium Periodate | Sigma-Aldrich | 7790-28-5 | |
| hADSC | Lonza | PT-5006 | Store in vials in liquid nitrogen until use. |
| Dulbecco's Modified Eagle's Medium | Gibco Life Technologies | 11965-092 | Warm in 37 °C water before use. |
| Trypsin/EDTA | Lonza | CC-5012 | Warm in 37 °C water before use. |
| Calcein AM | Gibco Life Technologies | C3100MP | Store in the dark at -80 °C until use. |
| Live/Dead Mammalian Viability Assay Kit | Invitrogen Life Technologies | L-3224 | Store in the dark at -80 °C until use. |
| MES Hydrate | Sigma-Aldrich | M2933 | |
| N-Hydroxysuccinimide | Sigma-Aldrich | 130672 | |

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|--|------------------------------|----------|---------------------------------|
| 1-ethyl-(dimethylaminopropyl) carbodiimide (EDC) | Sigma-Aldrich | E1769 | 10 G |
| Dulbecco's Phosphate-Buffered Saline, +Calcium, +Magnesium | Life Technologies | 14040133 | Warm in 37 °C water before use. |
| Dulbecco's Phosphate-Buffered Saline, -Calcium, -Magnesium | Life Technologies | 14190144 | Warm in 37 °C water before use. |
| RGD Peptides | International Peptides | | |
| Alexa Fluor 546 Phalloidin Stain | Invitrogen Life Technologies | A22283 | Store at -20 °C until use |
| (4', 6-Diamidino-2-Phenylindole, Dihydrochloride) (DAPI) Stain | Life Technologies | R37606 | Store at -20 °C until use |