

Materials List for:

# Microfluidic Genipin Deposition Technique for Extended Culture of Micropatterned Vascular Muscular Thin Films

Eric S. Hald<sup>1</sup>, Kerianne E. Steucke<sup>1</sup>, Jack A. Reeves<sup>1</sup>, Zaw Win<sup>1</sup>, Patrick W. Alford<sup>1</sup>

<sup>1</sup>Department of Biomedical Engineering, University of Minnesota

Correspondence to: Patrick W. Alford at [pwalford@umn.edu](mailto:pwalford@umn.edu)

URL: <https://www.jove.com/video/52971>

DOI: [doi:10.3791/52971](https://doi.org/10.3791/52971)

## Materials

| Name                                  | Company                           | Catalog Number   | Comments                |
|---------------------------------------|-----------------------------------|--|-------------------------|
| Coverslip staining rack               | Electron Microscopy Sciences      | <a href="http://www.emsdiasum.com/">www.emsdiasum.com/</a>             | 72239-04                |
| Microscope cover glass - 25 mm        | Fisher Scientific, Inc.           | <a href="http://www.fishersci.com">www.fishersci.com</a>               | 12-545-102              |
| Poly(N-iso-propylacrylamide) (PIPAAm) | Polysciences, Inc.                | <a href="http://www.polysciences.com/">www.polysciences.com/</a>       | #21458                  |
| 1-butanol                             | Sigma-Aldrich                     | <a href="http://www.sigmaaldrich.com">www.sigmaaldrich.com</a>         | 360465                  |
| Spincoater                            | Specialty Coating Systems, Inc.   | <a href="http://www.scscoatings.com">www.scscoatings.com</a>           |                         |
| Polydimethylsiloxane (PDMS)           | Ellsworth Adhesives (Dow Corning) | <a href="http://www.ellsworth.com">www.ellsworth.com</a>               | 184 SIL ELAST KIT 0.5KG |
| Fluorescent microbeads                | Polysciences, Inc.                | <a href="http://www.polysciences.com/">www.polysciences.com/</a>       | 17151                   |
| Silicon wafers                        | Wafer World, Inc.                 | <a href="http://www.waferworld.com">www.waferworld.com</a>             | 2398                    |
| Photoresist                           | MicroChem Corp.                   | <a href="http://www.microchem.com">www.microchem.com</a>               |                         |
| Contact mask aligner                  | Suss MicroTec                     | <a href="http://www.suss.com">www.suss.com</a>                         |                         |
| Developer                             | MicroChem Corp.                   | <a href="http://www.microchem.com">www.microchem.com</a>               |                         |
| Tridecafluoro-trichlorosilane         | UCT Specialties, Inc.             | <a href="http://www.unitedchem.com">www.unitedchem.com</a>             | T2492                   |
| Surgical biopsy punch                 | Integra LifeSciences Corp.        | <a href="http://www.miltex.com">www.miltex.com</a>                     | 33-31AA-P/25            |
| Genipin                               | Cayman Chemical                   | <a href="http://www.caymanchem.com">www.caymanchem.com</a>             | 10010622                |
| 1X phosphate buffered saline          | Mediatech, Inc.                   | <a href="http://www.cellgro.com">www.cellgro.com</a>                   | 21-031-CV               |
| Fibronectin                           | Corning, Inc.                     | <a href="http://www.corning.com">www.corning.com</a>                   | 356008                  |
| Penicillin/streptomycin               | Life Technologies, Inc.           | <a href="http://www.lifetechnologies.com">www.lifetechnologies.com</a> | 15140-122               |
| Umbilical artery smooth muscle cells  | Lonza                             | <a href="http://www.lonza.com">www.lonza.com</a>                       | CC-2579                 |
| Tyrode's solution components          | Sigma-Aldrich                     | <a href="http://www.sigmaaldrich.com">www.sigmaaldrich.com</a>         | various                 |
| Stereomicroscope                      | Zeiss                             | <a href="http://www.zeiss.com">www.zeiss.com</a>                       | 435002000000000         |
| Temperature-controlled platform       | Warner Instruments                | <a href="http://www.warneronline.com">www.warneronline.com</a>         | 641659; 640352; 641922  |
| Endothelin-1                          | Sigma-Aldrich                     | <a href="http://www.sigmaaldrich.com">www.sigmaaldrich.com</a>         | E7764-50UG              |
| HA-1077                               | Sigma-Aldrich                     | <a href="http://www.sigmaaldrich.com">www.sigmaaldrich.com</a>         | H139-10MG               |