ADVANCED HEALTHCARE MATERIALS

Supporting Information

for *Adv. Healthcare Mater.*, DOI: 10.1002/adhm.201700687

The Influence of Hyaluronic Acid and Glioblastoma Cell Coculture on the Formation of Endothelial Cell Networks in Gelatin Hydrogels

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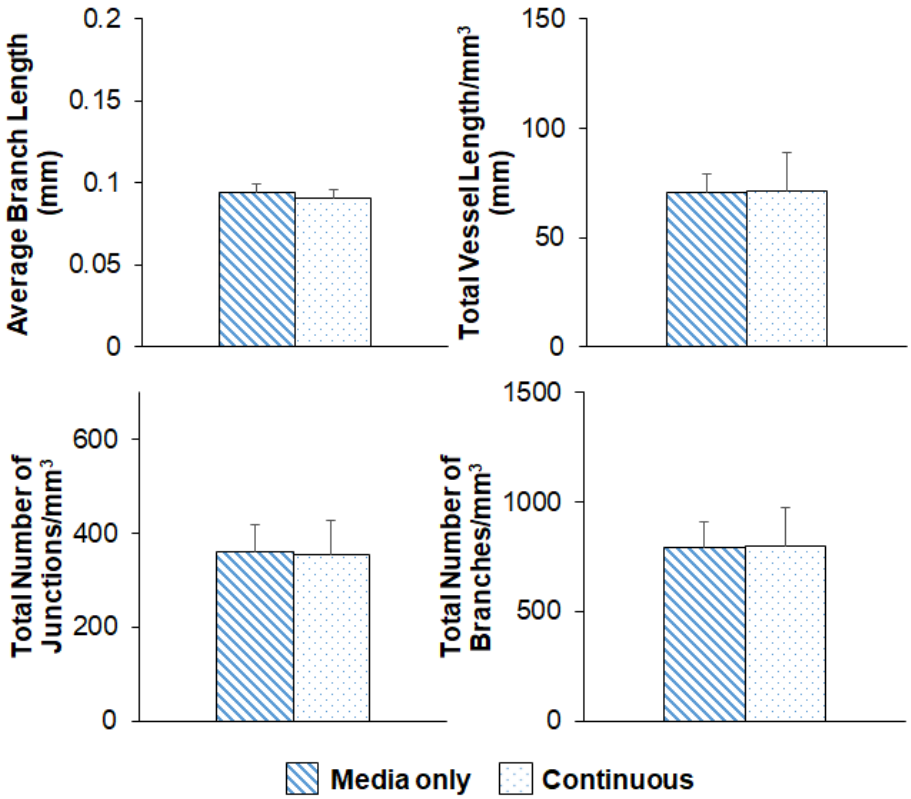
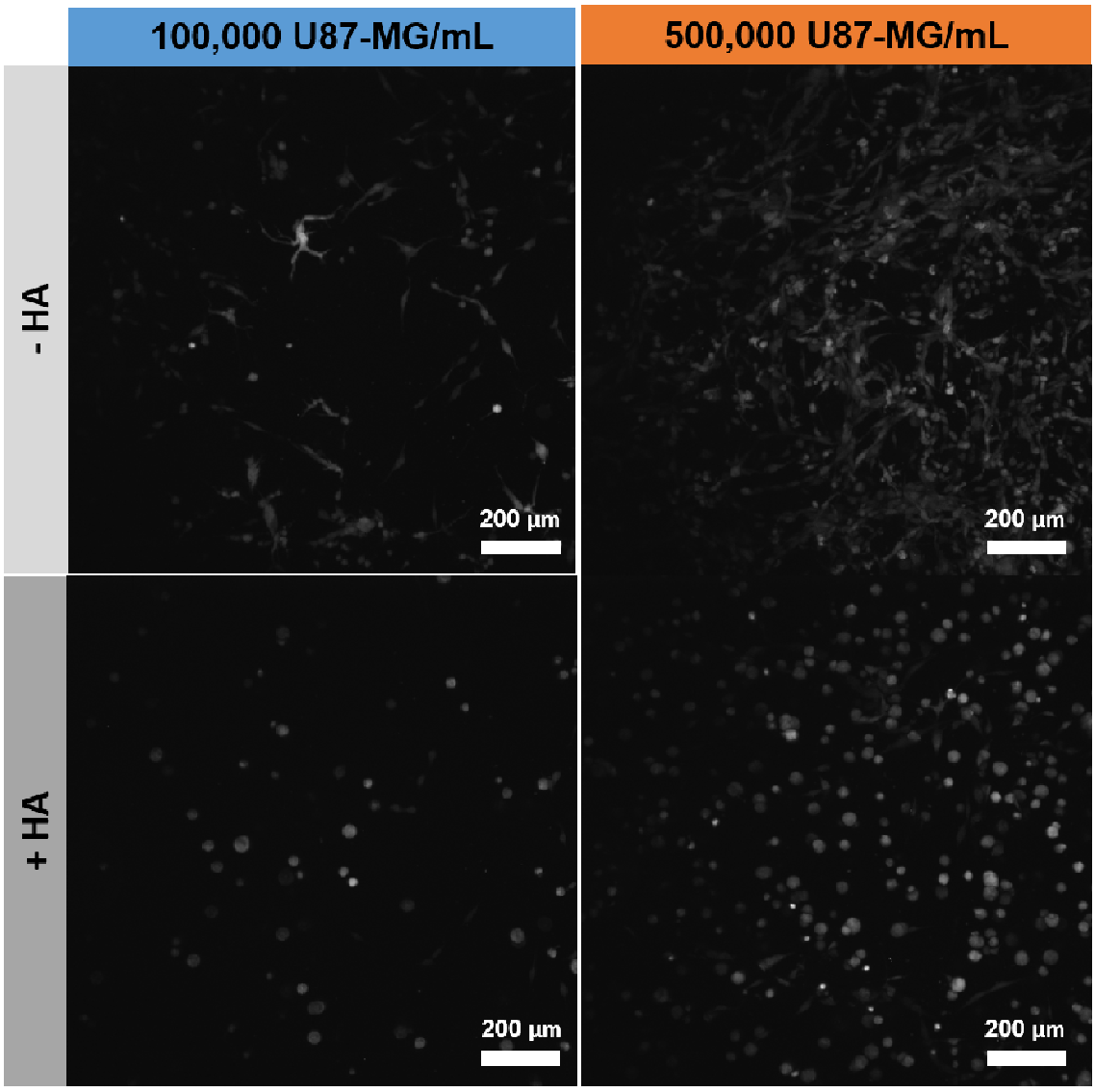
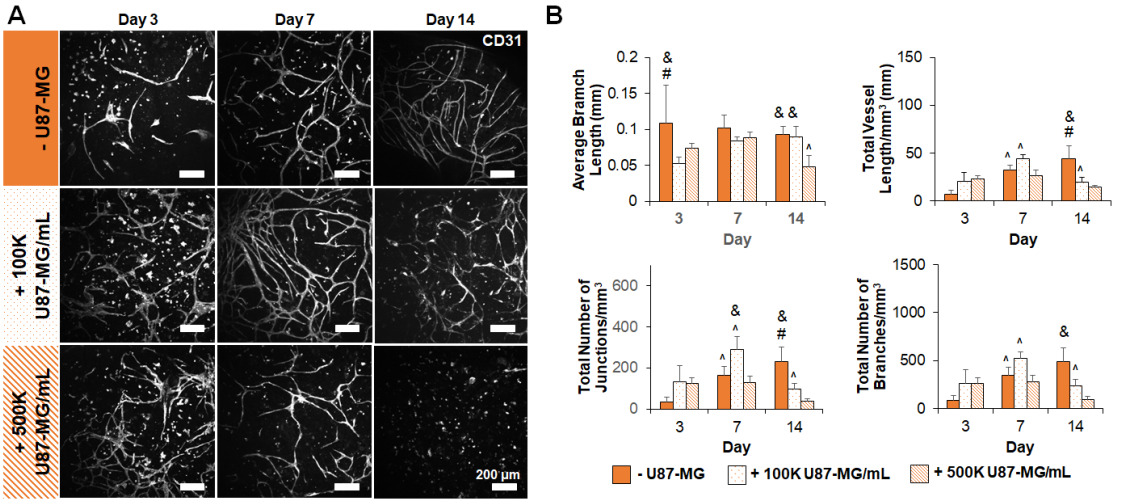


Supplementary Figure 1. Endothelial cell network complexity is not affected by the initial presence or absence of VEGF within the pre-polymer solution before photo-polymerization as long as VEGF is included in the culture media after photo-polymerization. **Media Only:** No VEGF was added to the pre-polymer solution prior to photo-polymerization, but cell-seeded hydrogels were cultured in VEGF-containing EGM-2 media. **Continuous:** Soluble VEGF (2 ng/mL) was incorporated into the pre-polymer solution prior to photo-polymerization, and hydrogels were cultured in VEGF-containing EGM-2 media.



Supplementary Figure 2. Representative maximum intensity projection images depicting U87-MG cells cultured in EGM-2 media within GelMA (-HA) or HA-functionalized GelMA (+HA) hydrogels (4 wt%) after three days. Scale bar: 200 µm.



Supplementary Figure 3. **(A)** Representative maximum intensity projection images depicting endothelial cell network regression in the presence of U87-MG cells within HA-functionalized GelMA hydrogels (4 wt%, +HA) over fourteen days. Endothelial cells are labeled with CD31. Scale bar: 200 µm. **(B)** Metrics for endothelial network complexity confirm endothelial cell network regression in the presence of U87-MG cells. Endothelial cell networks persist in the absence of U87-MG cells in HA-functionalized GelMA hydrogels. #: significant compared to 100K U87-MG/mL within time point ($p<0.05$). &: significant compared to 500K U87-MG/mL within time point ($p<0.05$). ^: significant compared to prior time point within same U87-MG cell density ($p<0.05$). Data presented as mean ± SD, n = 6, p-values calculated using one-way ANOVA with Tukey post-hoc.