Supplemental Table. Studies reporting post-printing viability using different cell types.

Bioink	Type of Cells	Purpose of Study	Outcomes	Comparison	Assay(s)	Reference
Alginate + Cellulose	Human nasal chondrocytes (hNCs), bone marrow-derived human mesenchymal stem cells (hBMSCs)	Cartilage engineering	After 60 days [post bioprinted construct implantation], formed tissue showed all qualitative features of proper cartilage and the formation of chondrocyte cell clusters was clear evidence of proliferation.	NO	Fluorescent *in situ* hybridization (FISH)	(Möller et al., 2017)
Alginate + Gelatin	Porcine aortic valve interstitial cells (VIC), Human aortic root smooth muscle cells (SMC)	Heart valve	Both cell types were viable for (81.4 ± 3.4% for SMC and 83.2 ± 4.0) for VIC within 3D printed tissues after 7 days in culture.	YES	LIVE/DEAD; MTT cell viability	(Duan, Hockaday, Kang, & Butcher, 2013)
Alginate + PCL	Human nasal septum chondrocytes, human osteoblasts (MG63)	Osteochondral tissue engineering	Chondrocytes (~93.9 ± 0.3%) and osteoblasts (~95.6 ± 1.8%) remained viable for at least 7 days, with no significant decrease in viability	YES	LIVE/DEAD	(Shim, Lee, Kim, & Cho, 2012)
Collagen Hydrogel	Keratinocytes (KCs), fibroblasts (FB)	Skin engineering	Similar high viability post-printing was reported for keratinocytes and fibroblasts after 7 days in culture.	YES	Hoechst 33342/ Propidium iodide	(Lee et al., 2014)
GelMA	Clone 8 cells (C3H/10T1/2 FBSTS), human neonatal dermal fibroblasts (HNDFs), primary HUVECs	Vessel networks in tissue engineered constructs	Similar viability after one week in culture	YES	LIVE/DEAD	(Kolesky et al., 2014)
GelMA + Gelatin	Bone Marrow Stem Cells (BMSCs)	Direct Bioprinting of Soft Hydrogels	Cell proliferation was more than 90% using a 5/8% (w/v) GelMA/gelatin cell-laden bioink. Provides a consistent alternative to printing with low viscosity (5%) GelMA.	NO	LIVE/DEAD	(Yin et al., 2018)

GelMA + GMHA	Human induced pluripotent stem cells (hiPSCs), Human umbilical vein endothelial cells (HUVECs), Mesenchymal supporting cells	Biomimetic liver	76% viable cells within 2 h followed bioprinting. No significant change was observed within the first 3 days, whereas after a week, live cells accounted for 65% of the total population.	NO	LIVE/DEAD	(Ma et al., 2016)
GelMA + PEGTA + Alginate	HUVECs, Human mesenchymal stem cells (MSCs)	Vascular grafts	Percentages of viable cells within bioprinted constructs at UV exposures of 20 s and 30 s exceeded 80% after 1, 3, and 7 days of culture, significantly higher than those exposed to UV for 40 s.	NO	LIVE/DEAD	(Jia et al., 2017)
GelMA Physical Gel (GPG)	HUVECs	Direct bioprinting of soft, porous constructs	A simple cooling technique enabled printing of low concentration (3%) GelMA to produce stable and soft structures after photocrosslinking that supported cell proliferation.	NO	LIVE/DEAD	(Liu et al., 2017)
Matrigel	Human ovarian cancer (OVCAR-5), control human fibroblasts (MRC-5)	*In vitro* 3D cancer model	At 72 h post patterning, the co-culture of patterned cancer cells and fibroblasts did not show any dead cells, whereas the OVCAR5 and MRC-5 viabilities were 93.8% and 90.1% respectively.	YES	LIVE/DEAD	(Manuscript & Magnitude, 2013)
Matrigel	Human alveolar epithelial type II (A549), hybrid HUVEC and A549 cells	*In vitro* air-blood barrier	Printed epithelial cells showed higher viability than endothelial cells. Endothelial cells had 86% cell survival on the 3rd day of cultivation.	YES	Lactate dehydrogenase (LDH)	(Horvath et al., 2015)
Cell Suspensions (No Bioink Carrier)	Human fibroblasts, hADScs, HPDLCs, ARPE-19, HUVECs, GES-1	Printability of different human cell lines	Five cell types demonstrated no significant difference in cell survival and proliferation before and after printing. Only hADSCs showed differences in the mean survival rates after printing.	YES	LIVE/DEAD; Cell Counting Kit-8 (CCK-8)	(Xin et al., 2016)

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