

Figure S-1: Changes in expression of *SOX9* from freshly isolated tissue (F), tissue explant culture (T), and passage three monolayer (p3) measured by RT-qPCR. Data are expressed as mean fold-change (+ SEM) relative to inner zone tissue explant culture (n=3/group). Within each zone (inner or outer), groups not sharing a letter are significantly different (p<0.05, Bonferroni post-hoc). Freshly isolated inner zone tissue is not significantly different from freshly isolated outer zone tissue.

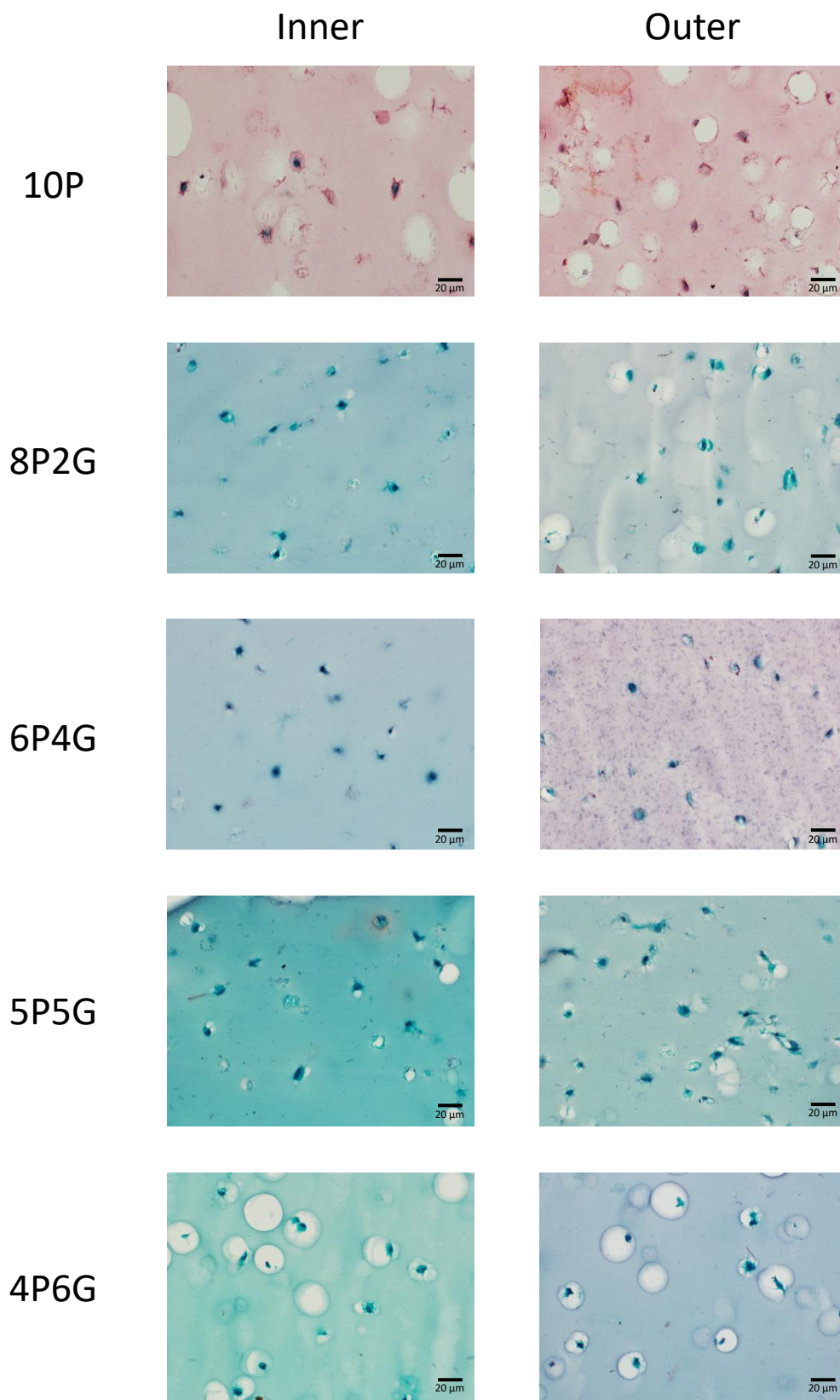


Figure S-2: Representative histology demonstrating cell shape following hydrogel culture. Hydrogel constructs were fixed for 30 minutes in 10% neutral buffered formalin, dehydrated by ethanol gradient, cleared with xylene, and embedded in paraffin. Next, 8 μm sections were stained with Hematoxylin (Catalog #: S212A; Poly Scientific R&D Corp, Bay Shore, NY), Safranin-O (Catalog #: HT904; Sigma-Aldrich, St. Louis, MO), and Fast Green (Catalog #: 15500; Electron Microscopy Sciences, Hatfield, PA). Cell nuclei appear dark blue, collagen stains bright blue, and proteoglycans stain red. 10P: 10% PEGDA; 8P2G: 8% PEGDA/2% GelMA; 6P4G: 6% PEGDA/4% GelMA; 5P5G: 5% PEGDA/5% GelMA; 4P6G: 4% PEGDA/6% GelMA.

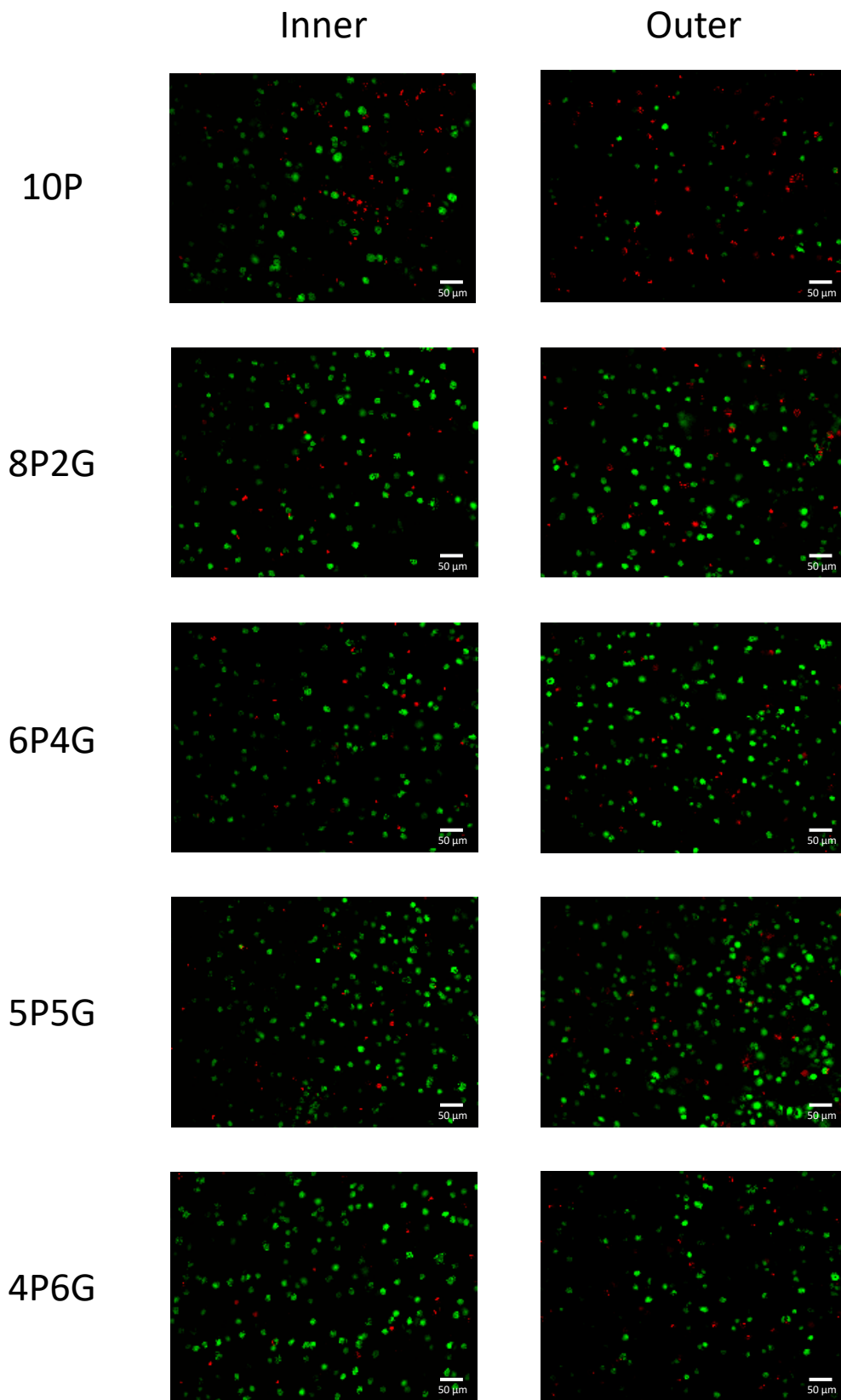


Figure S-3: Representative images of Live/Dead stained hydrogel constructs after 48 hours of culture. Live cells are green (Calcein-AM) and dead cells are red (ethidium homodimer). 10P: 10% PEGDA; 8P2G: 8% PEGDA/2% GelMA; 6P4G: 6% PEGDA/4% GelMA; 5P5G: 5% PEGDA/5% GelMA; 4P6G: 4% PEGDA/6% GelMA.