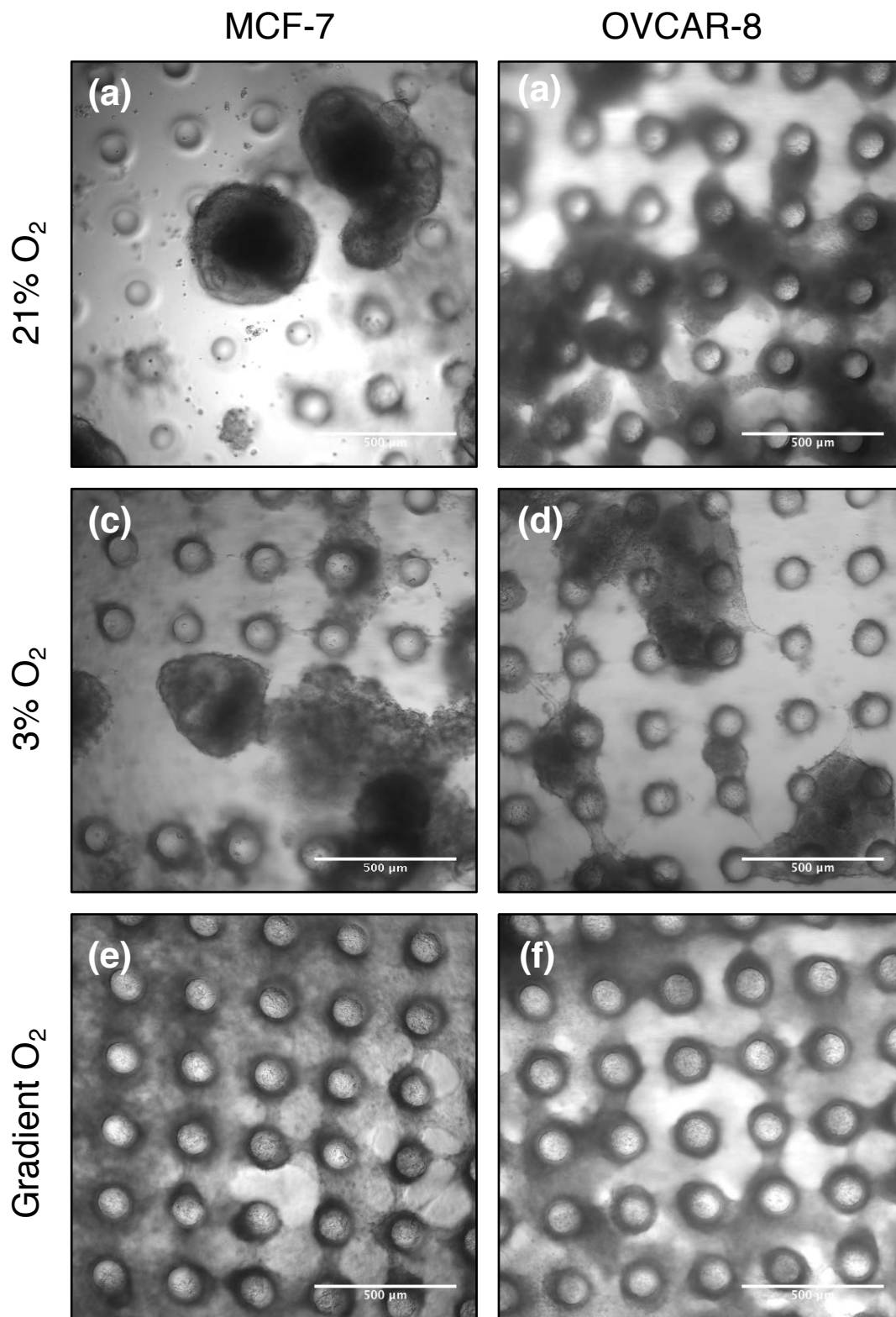
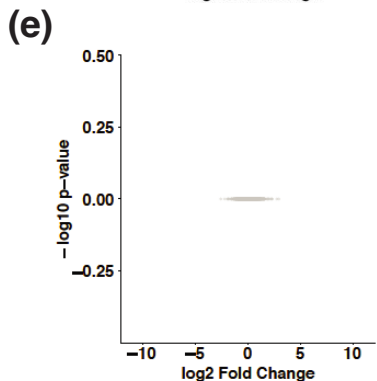
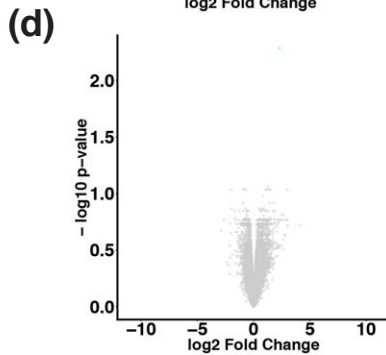
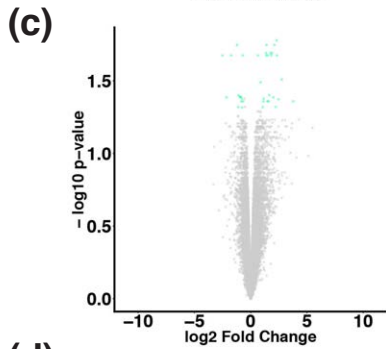
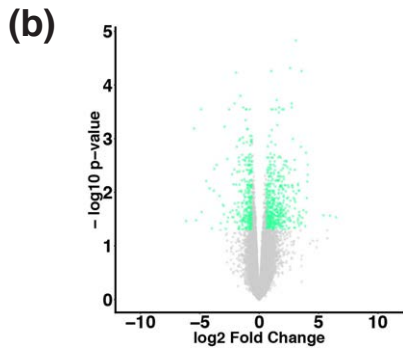
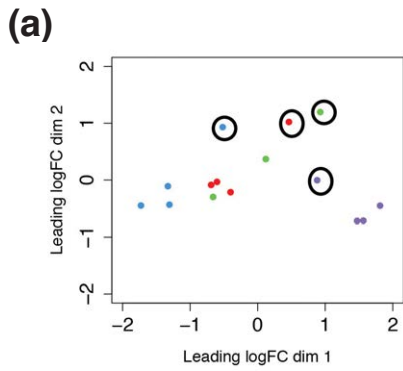


Supplemental Figure 1: Confocal images of 7-day growth OVCAR-8 cell lines in 3D Matrigel ECM

Red fluorescence is generated from expression of DsRed2 proteins and blue fluorescence is from Hoechst 33342 staining of DNA. a) OVCAR-8 cells grown in 21% O₂, b) in 3% O₂, c) and in gradient O₂.

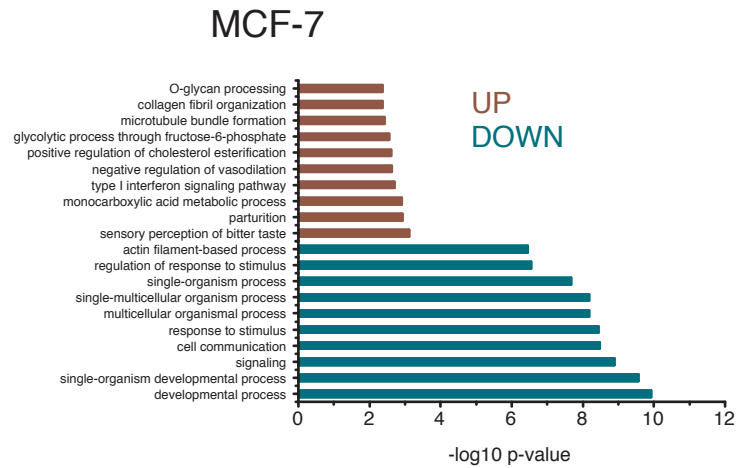


Supplemental Figure 2: Brightfield images of 14-day growth conditions



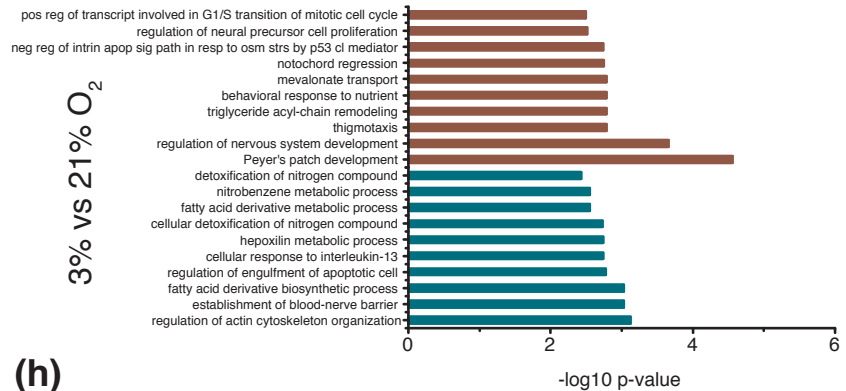
(f)

3D vs 2D, 21% O₂



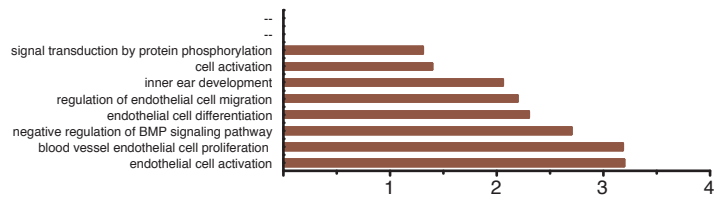
(g)

3% vs 21% O₂



(h)

3% vs gradient



Supplemental Figure 3: Visualization of transcriptome comparisons for MCF-7 cell cultures, including outlier replicate.

(a) MDS plot depicting the Euclidean distance between Log₂ fold changes of genes between MCF-7 samples, outlier replicate samples are circled. (b) Volcano plot of transcriptomes for MCF-7 21% O₂ vs. 2D comparison; genes with a log₂ fold change greater than |±0.61| and a False Discovery Rate (FDR) ≤ 0.05 are shown in green, genes not meeting the criteria are grey. (c) Volcano plots of OVCAR-8 3% vs. 21% O₂, (d) 3% vs. gradient, and (e) gradient vs. 21% O₂. (f) Top 10 up-regulated (red) and down-regulated (blue) Gene Ontology (GO) Biological Processes for MCF-7 21% O₂ vs. 2D comparison, (g) 3% vs. 21% O₂, and (h) 3% O₂ vs. gradient.