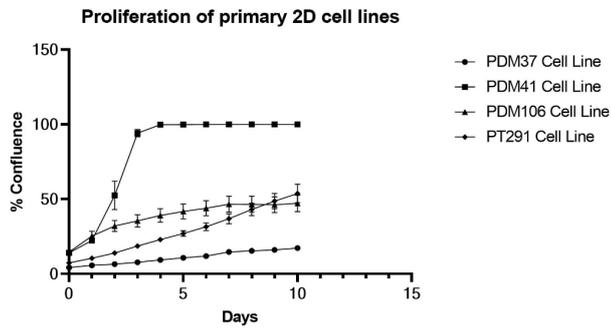
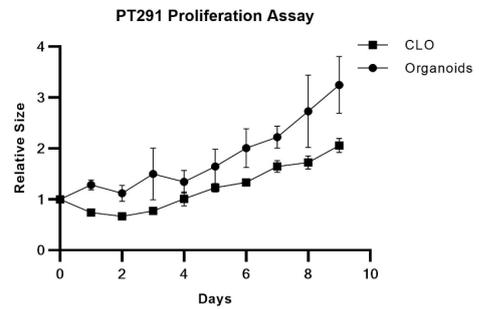


Supplementary Figures:

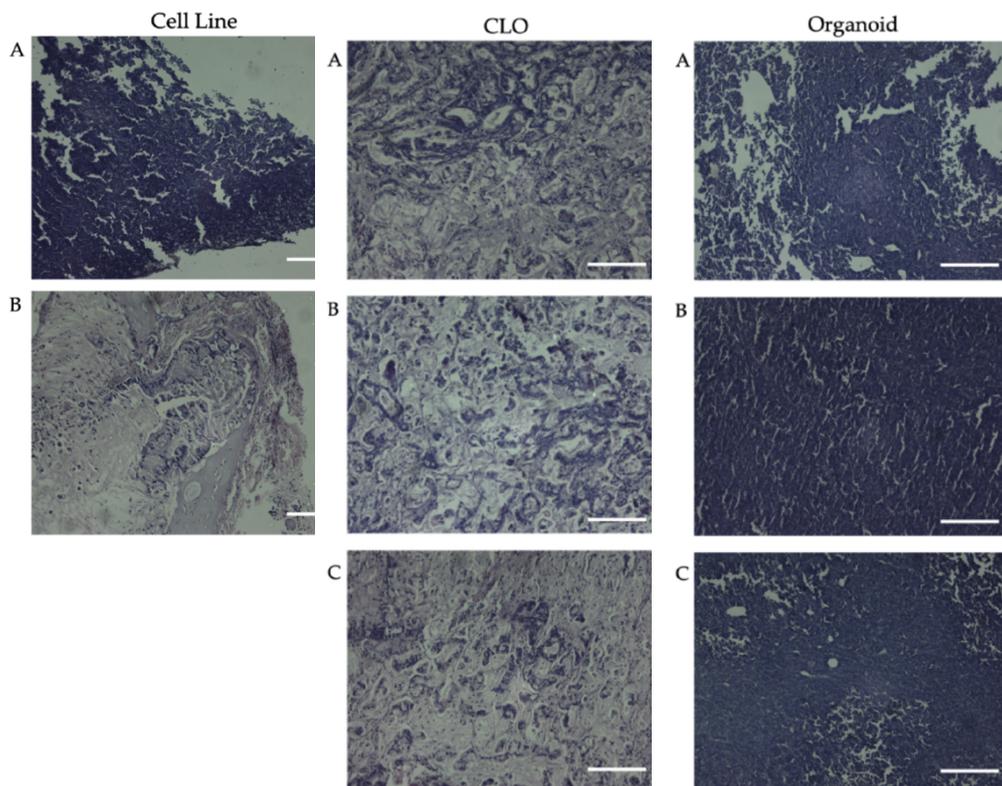
A



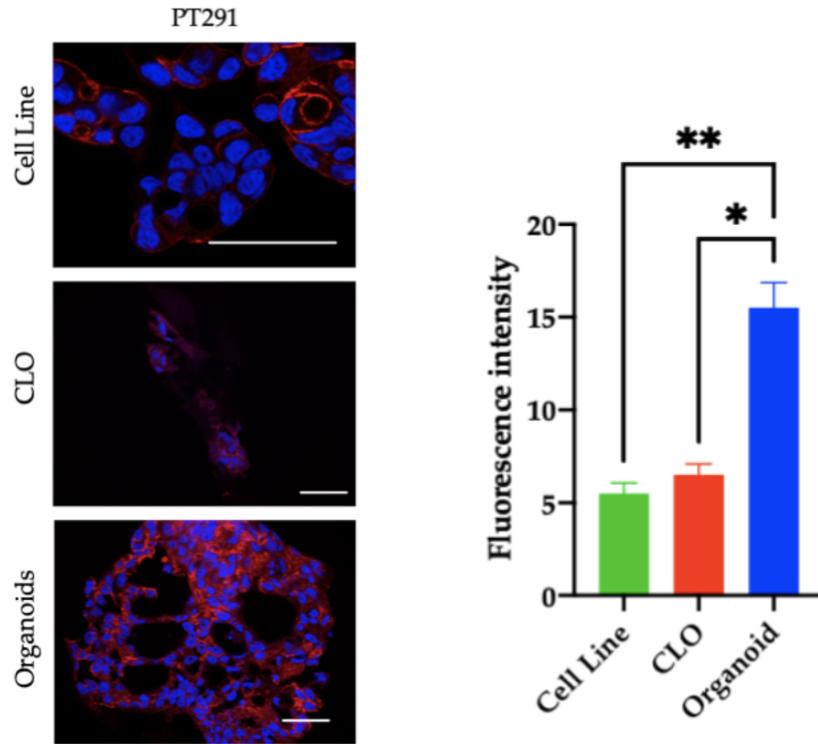
B



Supplementary Figure S 1: (A) Percentage of confluence of the cell lines PDM37-CL, PDM41-CL, PDM106-CL and PT291-CL cultured over 10 days. Total brightfield area of CLOs and organoids cultured over 9 days plotted as relative size (B) PDM291-CLO vs organoids



Supplementary Figure S2: H&E staining of PT291 Cell line (n=2), CLO (n=3) and organoid (n=3) in SCID mice. Images taken at 100X magnification. Scale bars 20 um.



Supplementary Figure S3: Images of immunofluorescence staining of HCAM (green/red) and counterstained with DAPI (blue) in matched cell lines, CLOs and organoids from patients PT291. Scale bars 100 μ m. A repeated measure ANOVA was used to determine statistical significance. * denotes $p < 0.005$, ** denotes $p < 0.01$, * denotes $p < 0.001$.**