

Supplementary Table 1: Gene list of pseudotime dependent genes from day 5 to day 11.

Supplementary Table 2: Gene ontology term analysis list of pseudotime dependent genes.

Supplementary Table 3: Differentially expressed genes between matrigel and no matrix organoids from an scRNAseq dataset sequenced on day 13.

Supplementary Table 4: Gene ontology term analysis list for genes upregulated in matrigel (day 13).

Supplementary Table 5: Gene ontology term analysis list for genes upregulated in no matrix (day 13).

Supplementary Table 6: Differentially expressed genes between matrigel and no matrix organoids from an scRNAseq dataset sequenced on day 16.

Supplementary Table 7: Differentially expressed genes between Control and YAP1 activator treated organoids from an scRNAseq dataset sequenced on day 10.

Supplementary Table 8: Differentially expressed genes between Control and YAP1 activator treated organoids from an scRNAseq dataset sequenced on day 16.

Supplementary Table 9: Differentially expressed genes between Control and WLS-KO organoids treat with Chiron and used for scRNAseq

Supplementary Table 10: Differentially expressed genes between Control and WLS-KO organoids treat with Py-60 and used for scRNAseq

Supplementary Table 11: List of antibodies with dilutions and source used for indirect iterative immunohistochemistry (4i).

Supplementary Table 12: Detailed composition of buffers used for indirect iterative immunohistochemistry (4i).

Supplementary Table 13: List of p-values resulting from statistical significance testing of comparative analyses presented in Figures 4h, 4j, 5b, 5e, Extended figure 3d, Extended figure 3f, Extended Figure 10b, Extended Figure 10e.