



Supplementary information Fig. S7 VPA and EPZ6438 are critical for maintaining hyperplastic phenotype in intestinal organoids

a, qPCR analyses of regenerative markers in organoids cultured under the indicated conditions for 2 passages (n = 2 wells).

- b**, GSEA analysis for intestinal epithelial signature genes and colitis-associated regenerative genes in Hyper-organoids with and without VPA and EPZ6438.
- c**, PCA analysis showing that Hyper-organoids without VPA/EPZ6438 resembled ENR-organoids and homeostatic epithelial cells more closely than Hyper-organoids.
- d**, Representative images of Hyper-organoids with and without VPA/EPZ6438.
- e**, Quantification of total/Lgr5-GFP-expressing organoid number at different passages (n = 4 wells).
- f**, Immunofluorescence staining of CLU and fetal genes in Hyper-organoids with and without VPA/EPZ6438. Scale bars, 100 μ m.
- g**, qPCR analysis of indicated gene expression in -VE and Hyper-organoids treated for different days.

*** $P < 0.001$. The experiments in a, d, e and f were independently replicated at least twice with similar results.