



Fig. S5 ScRNA-seq analysis for subsets of ISCs and TA cells. (related to Fig. 3)

a,b Heatmap of correlation matrix of three ISC (**a**) and TA cell (**b**) subsets. **c** Distribution of stemness signature score (y-axis) in three ISC subsets (columns). *** $P < 10^{-10}$, ** $P < 10^{-5}$, Mann-Whitney U test. **d** Scatterplots of the signature score for G1/S genes (x-axis) and G2/M genes (y-axis) in three ISC subsets. Cells are colored by their cluster assignment

of subsets. **e** Distribution of stemness signature score (y-axis) in three TA subsets (columns). *** $P < 10^{-10}$, Mann-Whitney U test. **f** Scatterplots of the signature score for G1/S genes (x-axis) and G2/M genes (y-axis) in three TA subsets. Cells are colored by their cluster assignment of subsets. **g,h** Differential expressions of Wnt (*Axin2*, *Ascl2*, *Lgr5*, *Ephb2*) and Notch (*Hes1*, *Notch2*, *Hdac2*, *Adam10*) pathway genes in stem (**g**) and TA (**h**) subsets of WT and $\beta7^{-/-}$ mice. Color bar, \ln (Fold-change), WT or $\beta7^{-/-}$ vs. WT.