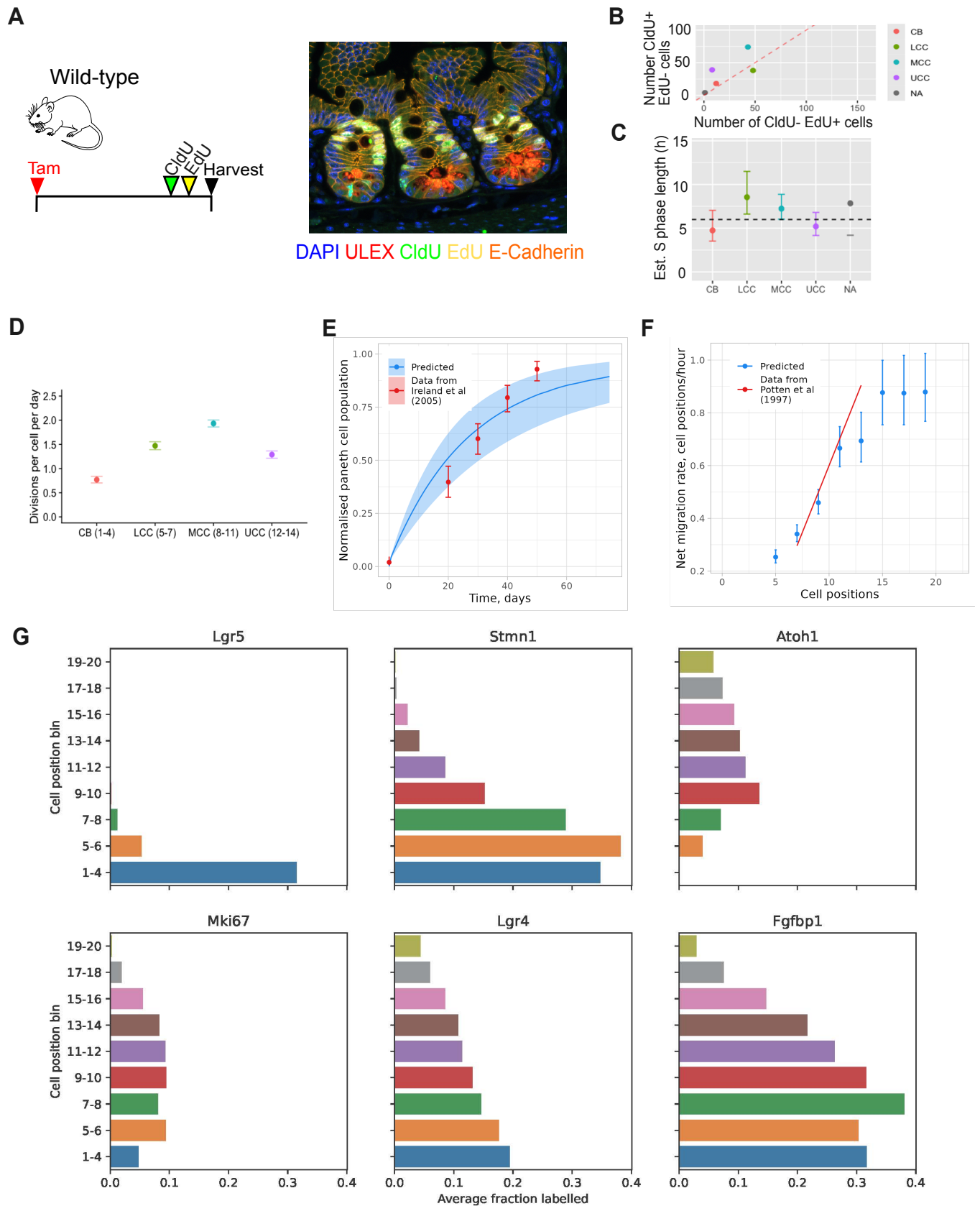




Supplementary Figure 2: Estimation of cell cycle rate and validation of population dynamics models. A) Double S-phase labelling experiment: ULEX was used to mark Paneth cells and EdU and CldU were administered with a 2h separation. B) Dot plot showing the number of EdU+ cells and CldU+ cells in different crypt regions from 150 crypts analysed (n=3 mice). C) Dot plot showing S-phase length estimated from the double labelling experiment. D) Plot showing the cell cycle rate by crypt region derived by combining the proportion of cells in S-phase derived using CRISP and the S-phase length derived from the double labelling. E) Predicted paneth cell repopulation. The blue line is the prediction from the population dynamics model and the shaded region is the 95% credible interval. The red points and intervals are extracted from Ireland *et al* 2005. F) Estimated cell migration rate using the population dynamics model. The blue points are model estimates and the red line is taken from Potten *et al* 1997. G) Average cell fraction labelled in different cell position bin for several isthmus genes, the ISC marker *Lgr5*, secretory marker *Atoh1* and cell cycle gene *Mki67*.