



Supplementary Fig. 3. Cluster of Musashi1+ cells was detected at the initiation site of crypt budding or crypt fission in PTEN mutants.

A-B. Examples of Musashi1+ cells as seen in the apex of bifurcating crypts.

C. A cluster of Musashi1+ cells was detected at the transition zone between crypt and villus. This contrasts to normal intestine in which a single Musashi1+ cell was occasionally detected at this location.

These sites may initiate invagination (red arrow) (see D).

D-E. Crypt budding from an existing crypt in which Musashi1+ cells are at the initiation point (E).

F. Cluster of Musashi1+ cells was detected in the villus region in the PTEN mutant intestines.

G. Sequential formation of new crypts in which Musashi1+ cells are located at the initiation site of new crypts (red arrow). Cartoon of this model is shown in (H).