



**Supplementary Figure 3: Immunofluorescence staining of *Casc3*<sup>RRU345/+</sup> and *Magoh*<sup>Mos2/+</sup> germline mutant brain sections shows phenotypic difference.** (A-B). *Casc3*<sup>RRU345/+</sup> brains showed no ectopic neuron production comparing to *Magoh*<sup>Mos2/+</sup> mutants. (C-E). Extensive apoptosis observed in *Magoh*<sup>Mos2/+</sup> mutants was not observed in *Casc3*<sup>RRU345/+</sup> brains. Scale bar, A-D, 50  $\mu$ m, E, 20  $\mu$ m.