



Chaya *et al.*, Figure S2

**Figure S2** Loss of ICK causes developmental defects. (A) *ICK* mRNA expression levels in *ICK*<sup>+/+</sup> and *ICK*<sup>-/-</sup> MEFs were analyzed by Q-PCR. Error bars show the SD. (B) *ICK* protein expression in *ICK*<sup>+/+</sup> and *ICK*<sup>-/-</sup> MEFs was examined by Western blot analysis.  $\alpha$ -tubulin was used as a loading control. (C) *Ccrk* mRNA expression levels in *ICK*<sup>+/+</sup> and *ICK*<sup>-/-</sup> MEFs were analyzed by Q-PCR. There was no significant difference between *ICK*<sup>+/+</sup> and *ICK*<sup>-/-</sup> MEFs. (D) Dissected lungs from *ICK*<sup>+/+</sup> (center), *ICK*<sup>+/-</sup> (left) and *ICK*<sup>-/-</sup> (right) embryos. The sizes of the left (red arrowheads) and right (white arrowheads) lobes are substantially smaller in the *ICK*<sup>-/-</sup> lung. (E) The length from top to the bottom of left lobe from *ICK*<sup>+/+</sup>, *ICK*<sup>+/-</sup> and *ICK*<sup>-/-</sup> lungs was measured. (F-H) Ventral (F) and dorsal (G) views of brains from E17.5 *ICK*<sup>+/+</sup> and *ICK*<sup>-/-</sup> embryos. The olfactory bulbs are conspicuous in the *ICK*<sup>+/+</sup> brain (arrowhead, left) but not in the *ICK*<sup>-/-</sup> brain (arrowhead, right). The sagittal length of cerebral cortex (bidirectional arrows) is elongated in *ICK*<sup>-/-</sup> mice at E17.5 (G, H). (I) *Gli1* expression in the E15.5 brain from *ICK*<sup>+/+</sup> and *ICK*<sup>-/-</sup> embryos was measured by Q-PCR. *Gli1* expression was reduced in the *ICK*<sup>-/-</sup> brain. (J-K') The cilia in the nasal pit epithelia from *ICK*<sup>+/+</sup> (J, J') and *ICK*<sup>-/-</sup> (K, K') mice were stained with the anti-AC3 antibody (red). No obvious difference in the cilia was observed between *ICK*<sup>+/+</sup> and *ICK*<sup>-/-</sup> embryos. (L-Q) Cilia in the nephric duct lumens (arrowheads in L, M), the dermis (Der) and epidermis (ED) of the skin (N, O), and muscular layers (LM, longitudinal muscle; CM, circular muscle) and submucosa (Sub) of the intestine (P, Q) at E15.5 were stained with an anti-Arl13b antibody (green). Polyglutamylated tubulin (red) was stained to observe the tubulin cytoskeleton in these tissues. Nuclei were stained with DAPI (blue). Scale bars, 2 mm (D, F, G), 100  $\mu$ m (J, K), and 10  $\mu$ m (J', K', L-Q). Error bars show the SD. \* $p < 0.03$ . n.s., not significant.