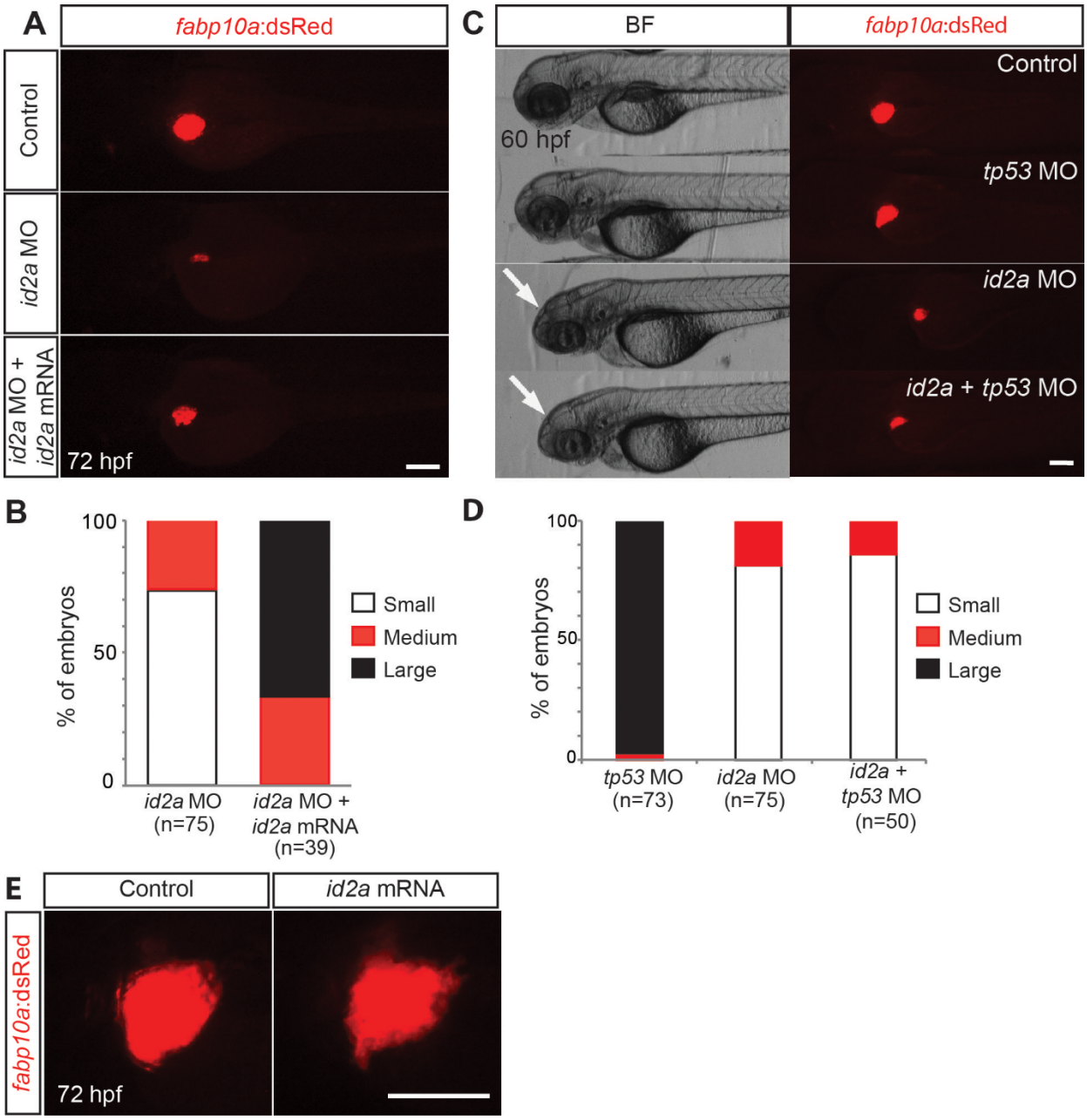
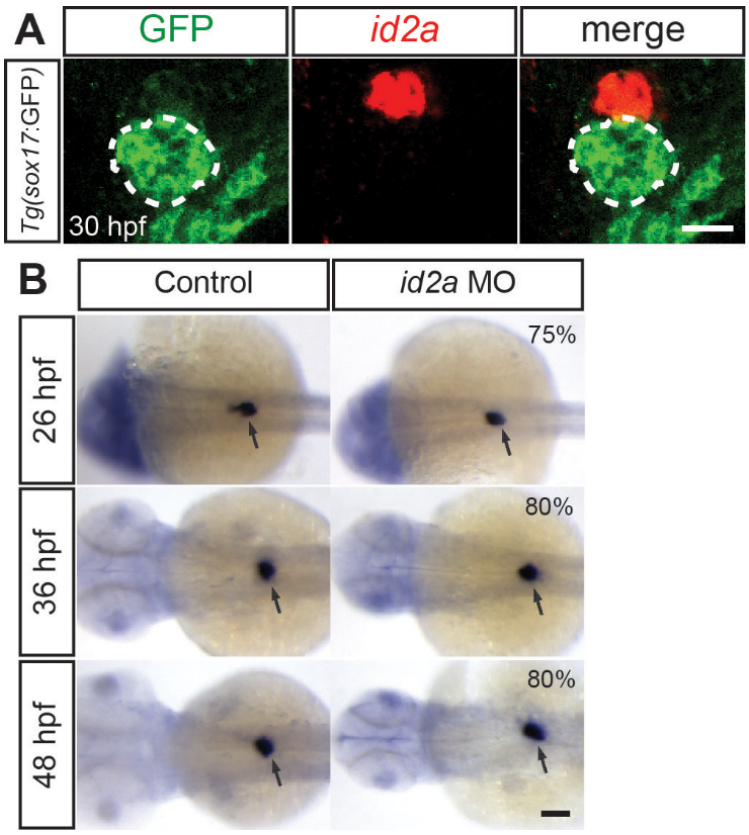


Supplemental Figure 1. *id2a* mRNA, but not *tp53* MO, injection rescues the reduced liver size in *id2a* MO-injected embryos. (A, B) Epifluorescence images showing *fabp10a:*dsRed expression (red) in control, *id2a* MO-injected, and *id2a* MO + mRNA-co-injected embryos (A) and their quantification (B). Although the liver of the co-injected embryos was still smaller than the control liver, it was much larger than the liver of the single MO-injected embryos, indicating a partial rescue of the liver size defect exhibited in *id2a* MO-injected embryos. For quantification, embryos were divided into three groups based on liver size: small, medium, and

large. The *id2a* MO-injected liver size shown in A was considered as small; the liver size of the co-injected embryo shown in A was considered as large. Dorsal view, anterior to the left. **(C)** Bright-field and epifluorescence images showing the overall morphology of embryos and *fabp10a:*dsRed expression (red), respectively, in control, *tp53* MO-injected, *id2a* MO-injected, and *id2a* MO + *tp53* MO-co-injected embryos. Liver size as well as eye and head size (arrows) in *id2a* MO-injected embryos was similar to that in embryos co-injected with *id2a* and *tp53* MOs. **(D)** Quantification of the results in C. For quantification, the liver size of the control embryo shown in C was considered as large and the liver size of the *id2a* MO-injected embryo shown in C was considered as small. Lateral view, anterior to the left. **(E)** Epifluorescence images showing the *fabp10a:*dsRed expression (red) in control and *id2a* mRNA-injected embryos at 72 hpf. Liver size in *id2a*-mRNA injected embryos was similar to that of control embryos. Lateral view, anterior to the left. Scale bars: 100 μm.



Supplemental Figure 2. *id2a* knockdown does not result in a general endoderm-derived organ defect. (A) *id2a* in situ hybridization (red) combined with anti-GFP immunostaining (green) in *Tg(sox17:GFP)* embryos reveals that *id2a* is highly expressed in the interrenal primordium but not in the dorsal pancreas (dashed lines) at 30 hpf. Single confocal section images. **(B)** *id2a* MO-injected and control embryos were processed for WISH with the *insulin* probe, which marks pancreatic beta cells of the dorsal pancreas (arrows). Overall size of the dorsal pancreas appeared unaffected in the MO-injected embryos compared to controls. The percentage of *id2a* MO-injected embryos exhibiting the representative phenotype shown is indicated in the upper left corner (n=10-20). The remaining percentage of embryos exhibited an intermediate or slightly larger dorsal pancreas phenotype. Arrows point to the dorsal pancreas. Scale bars: 20 µm (A) and 100 µm (B).