



**Supplementary information, Figure S7** Controls for ApIn<sup>CreERT2/+</sup> fate map. **(A)** Various control showing the specificity of ApIn<sup>CreERT2/+</sup>;Rosa26<sup>LacZ/+</sup> for coronary vessels, and its dependence on the presence of tamoxifen (Tam). Tie2-Cre;Rosa26<sup>LacZ/+</sup> heart shows the pattern when both coronary and endocardium are labeled. **(B)** Section view of no tamoxifen controls, E15.5 ApIn<sup>CreERT2/+</sup>;Rosa26<sup>LacZ/+</sup>. **(C)** Immunofluorescence for the CreERT2 protein by an ESR-specific antibody at E11.5 and E12.5 shows that the Cre exists the nucleus by E12.5. Arrows indicate nuclear localization seen at E11.5, while arrowheads point to cells with cytoplasmic localization at E12.5. **(D)** Emission spectra analysis of the signals of three reporter beta-GAL (Rosa26<sup>LacZ/+</sup>), GFP (Rosa26<sup>mTmG/+</sup>), RFP (Rosa26<sup>RFP/+</sup>) and the endothelial cell marker PECAM. The insert images show a representative positive signal of targeted cells, with the white line demarcating the region of interest for emission spectrum acquisition. n = 25-30 for each signal. AU, arbitrary units. RV, right ventricle; VS, ventricle septum; LV, left ventricle. Black bar = 0.5 mm, white bar = 100  $\mu$ m.