SUPPLEMENTARY INFORMATION

Extraembryonic but not embryonic SUMO-specific protease 2 is required for heart development

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Figure S1. Heart development is not affected by endocardium-specific deletion of SENP2. The efficiency of Tie2-Cre to execute loxP-mediated recombination in the endocardium, including AV cushion, is analyzed by β-gal staining in whole mounts (A, E) and sections (B-D, F-H) of the R26RlacZ heterozygous embryo, negative (A-D) or positive (E-H) for the Cre transgene. The developmental stage of the embryos examined is indicated by the number of somite (S). Whole mount (I, M) and histological (J-L, N-P) evaluations examine heart development affected by Tie2-Cre mediated deletion of SENP2 (genotype for control: SENP2Fx/Fx, genotype for $SENP2^{Tie2}$ mutant: Tie2-Cre+; SENP2Fx/Fx). Asterisks indicate AV cushions and enlargements of the inset are shown in C, G, K, O (ventricular myocardium), and D, H, L, P (AV cushions). D, dorsal; V, ventral; R, right; L, left. Scale bars, 1 mm (A, E, I, M); 500 μm (B, F, J, N); 100 μm (C-D, G-H, K-L, O-P).

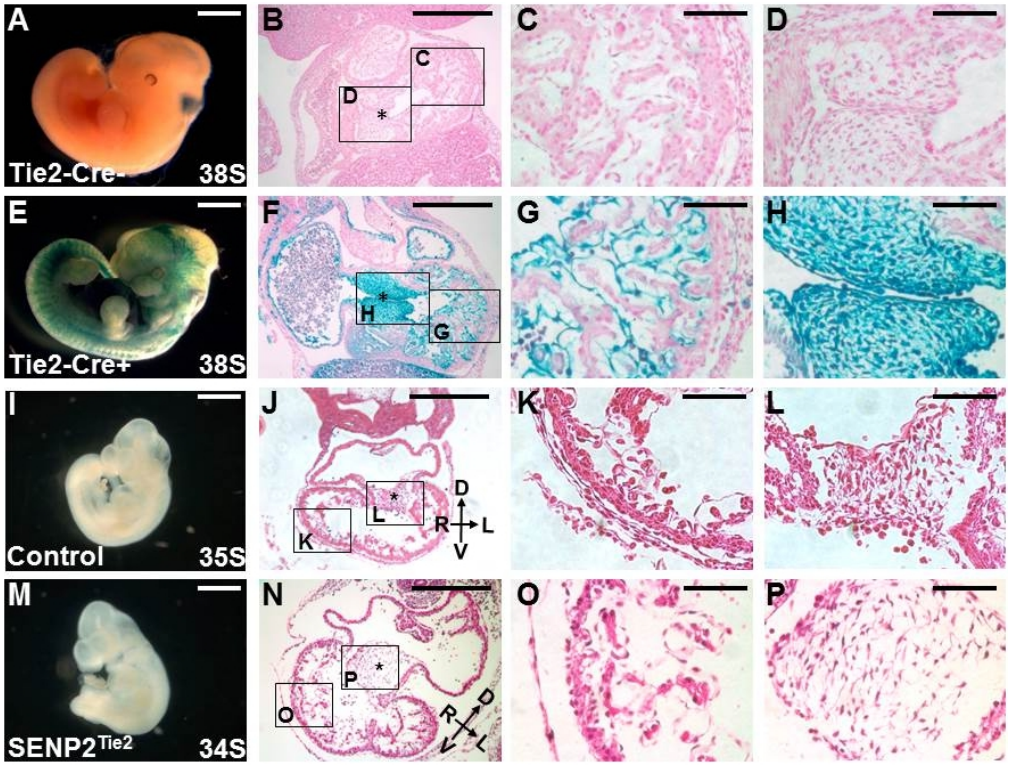

Table S1. Intercross of Tie2Cre+; Senp2Fx/+ and Senp2Fx/Fx generates live newborns with endocardium-specific deletion of SENP2.

Genotypes:	Tie2Cre	SENP2	No. Pups
1.	+	Fx/+	4
2.	+	Fx/Fx	5
3.	-	Fx/+	4
4.	-	Fx/Fx	3