Supplementary Table S1. Primers for PCR and Table2. Primer for qPCR

Amplicon	Expected size	Primer pair	Primer name	Sequences 5'→3'
F1A/RFP	537 bp	Forward	F1A(m)-F	gccacctgttaagtggccag
		Reverse	Rfp-R	cgtcagcggggtacagcatc
Cre	562 bp	Forward	CreF	ctaaactagcttcatcgtcggtc
		Reverse	CreR	tctgaccagagtcatccttagcg
LacZ	336 bp	Forward	LacZF	actggccgtcgttttacaacg
		Reverse	LacZR	ttctccgtgggaacaaacgg
R26R_ wild type	603 bp	Forward	R26F2	aaagtcgctctgaggttgttat
		Reverse	R523	ggagcggagaaatggatatg
R26R_ transgene	340 bp	Forward	R26F2	aaagtcgctctgaggttgttat
		Reverse	R1295	gcgaagagtttgtcctcaacc
GAPDH	500 bp	Forward	Gapdh-F3	aaatggtgaaggtcggtgtga
		Reverse	Gapdh-R3	tcataacggcggttcattcat
PGK neo 4xpA Floxed	~800 bp	Forward	R26F2	aaagtcgctctgaggttgttat
		Reverse	LacZR	ttctccgtgggaacaaacgg

Supplementary Table S2. PCR results of R26F2/LacZR, R26F2/R1295, R26F2/ LacZR, R26F2/R1295, R26F2/LacZR and R26F2/R1295 (internal control)

Amplicon	Expected size	Primer pair	Primer name	Sequences 5'→3'
F1A/exon1	499 bp	Forward	F1A-Fw	cccaaagccaagaagccacc
		Reverse	Exon1-Rv	tgtgctggtcgctcctgtccct
Cre	195 bp	Forward	Cre-Fw	gatttcgaccaggttcgttc
		Reverse	Cre-Rv	gctaaccagcgttttcgttc
RFP	333 bp	Forward	RFP-Fw	tgagaatcaaggtggtcgag
		Reverse	RFP-Rv	cgtcagcggggtacagcatc
β-actin	233 bp	Forward	β-actin-Fw	ctaggcaccagggtgtgatg
		Reverse	β-actin-Rv	gttggccttagggttcaggg

PCR conditions

Kapa LongRange Hotstart Reagent ReadyMix (kk3601)

Amplicon: F1A/Cre (2217 bp) :

PCR program: 1 cycle of 95 ℃ for 5 min, 35 cycles of 95 ℃ for 15 sec, 55 ℃ for 15

sec, 68 ℃ for 10 min and final 68℃ for 10 min。

Kapa Taq ReadyMix with dye (kk1024)

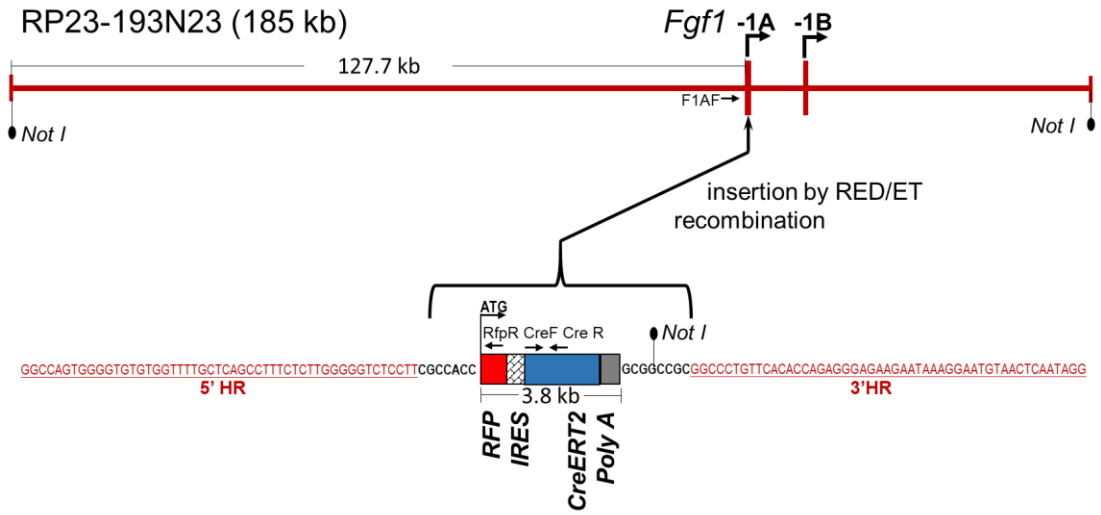
Amplicon: F1A/RFP、Cre、LacZ、RFP : PCR program: 1 cycle of 95 ℃ for 5 min, 35 cycles of 95 ℃ for 30sec, 56 ℃ for 40 sec, 72 ℃ for 1 min and final 72 ℃ for 7 min.

Amplicon: actin、GAPDH: 1 cycle of 95 ℃ for 5 min, 20 cycles of 95 ℃ for 20sec, 55 ℃ for 30 sec, 72 ℃ for 50 sec and final 72 ℃ for 7 min.

qPCR : KAPA SYBR® FAST qPCR Master Mix (2X) Kit

Gene expression detection and data analysis were performed using ABI7500 1.41 version software (ABI). The program is 1cycle of 50 ℃ for 2min, 1 cycle of 95 ℃ for 10min, 40 cycles of 95 ℃ for 15 sec, 60℃ for 1min and 1cycle of 95 ℃ for 15sec 60 ℃ for 1min 95 ℃ for 15 sec 60 ℃ for 15 sec.

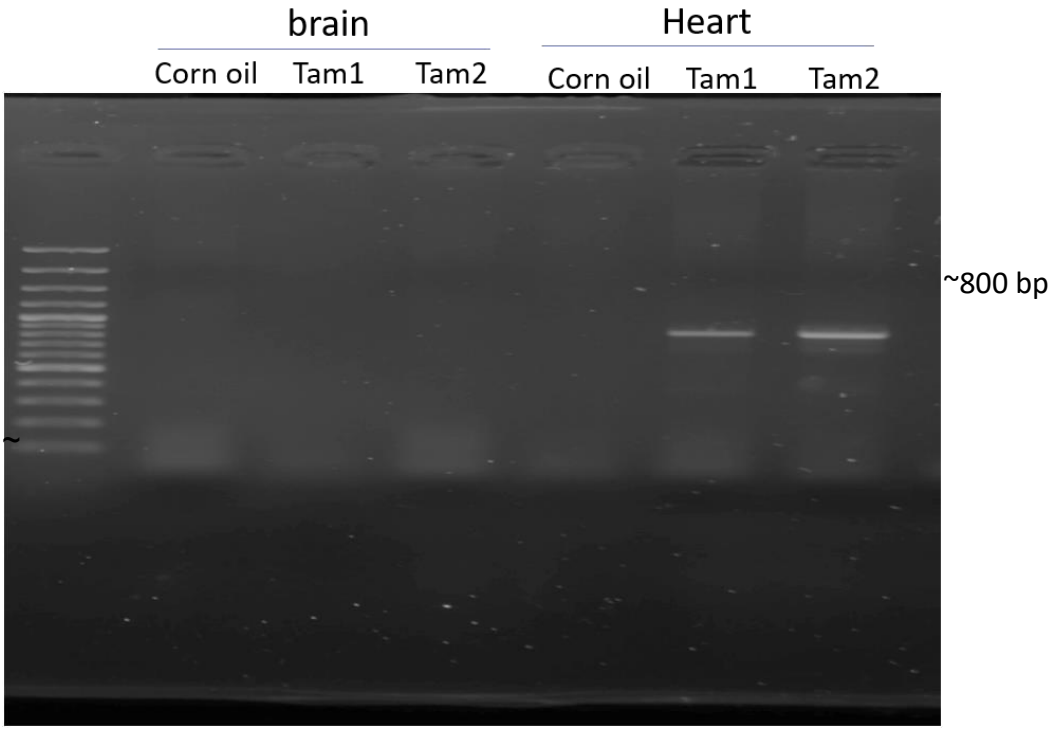
Supplementary Figure S1:



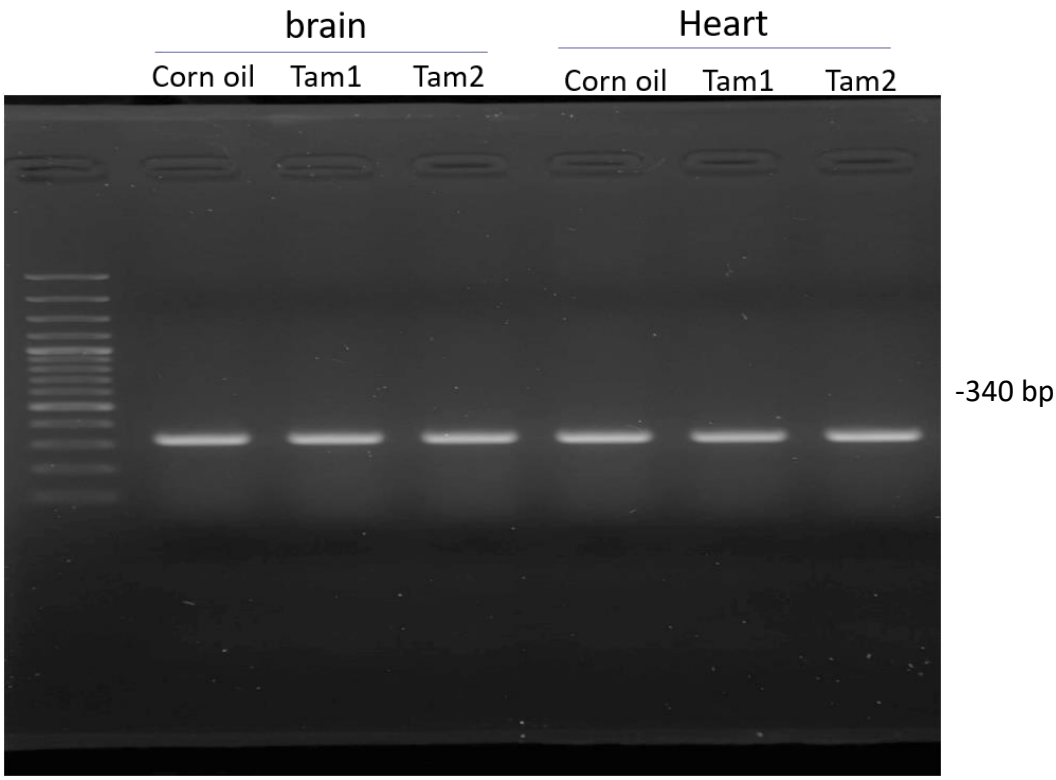
Supplementary Figure S1: Construction map of the mouse *F1A-CreER*^{T2}transgene. The transgene was constructed using mouse BAC clone RP23-193N23 including *Fgf1A* 5'UTR (127.7 kb), exon 1A, and 1B sequence as the transgene backbone. The bicistronic expression cassette RFP-IRES-CreER^{T2}-polyA containing a upstream Kozak sequence and a downstream *Not I* site was inserted into the exon 1A by RED/ET recombination system. The modified BAC was purified, *Not I* digest, and pulsed-field gel electrophoresis to isolate the transgene including the *Fgf1A* 5'UTR and expression cassette for mouse pronuclear microinjection. The junction sequences flanking the insertion site were also shown. Primers designed for genotyping: F1AF, RfpR, CreF and CreR.

Supplementary Figue S2. PCR results of R26F2/LacZR, R26F2/R1295, R26F2/LacZR, R26F2/R1295, R26F2/LacZR and R26F2/R1295 (internal control)

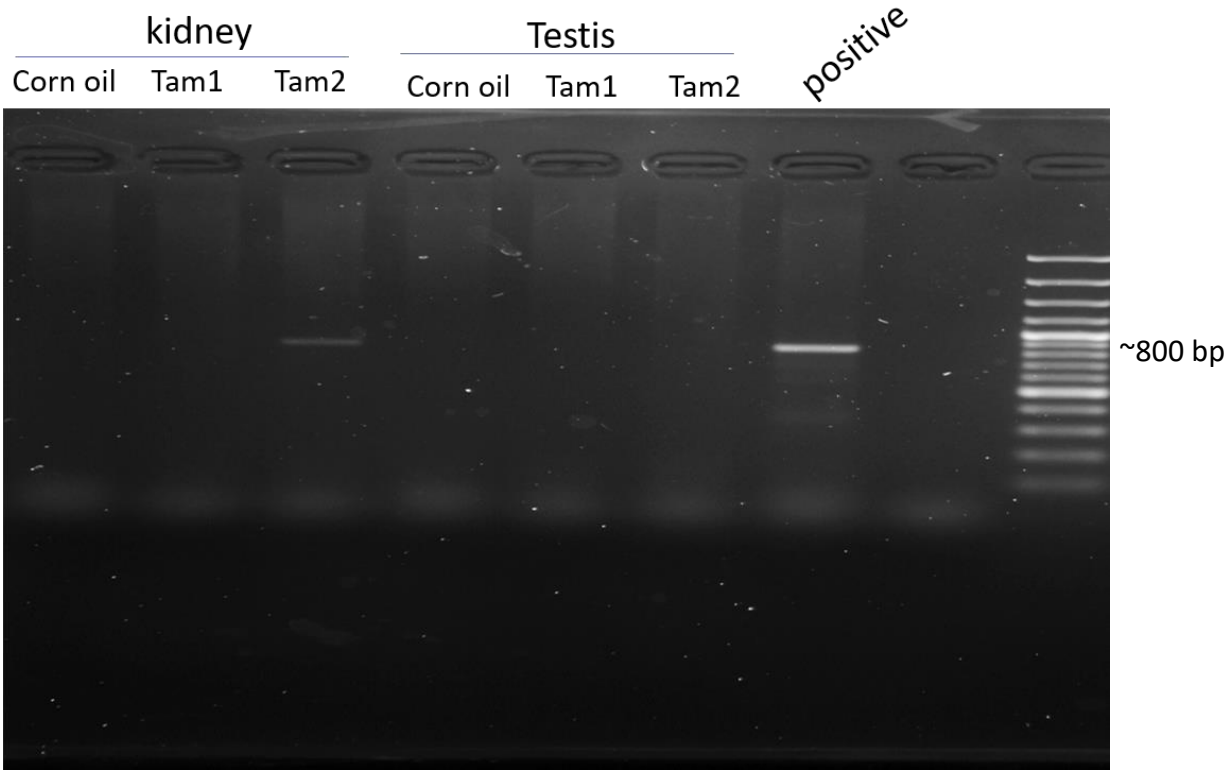
Primer pairs: R26F2/LacZR



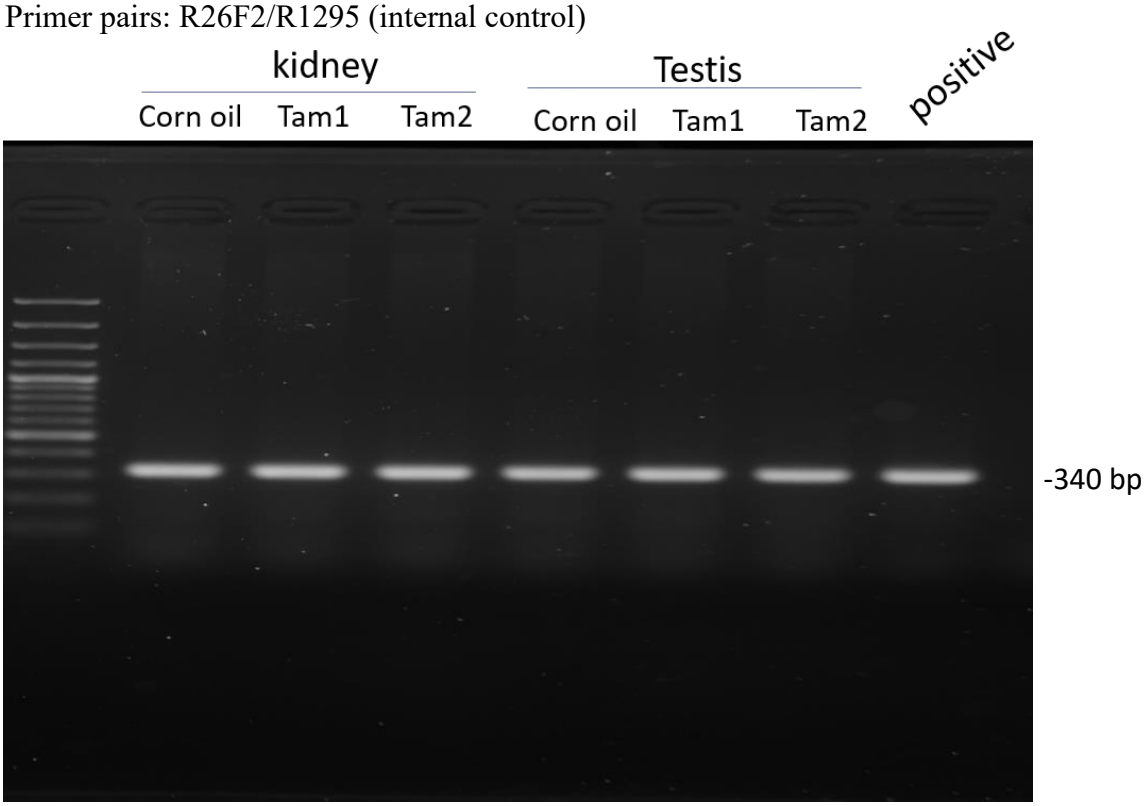
Primer pairs: R26F2/R1295 (internal control)



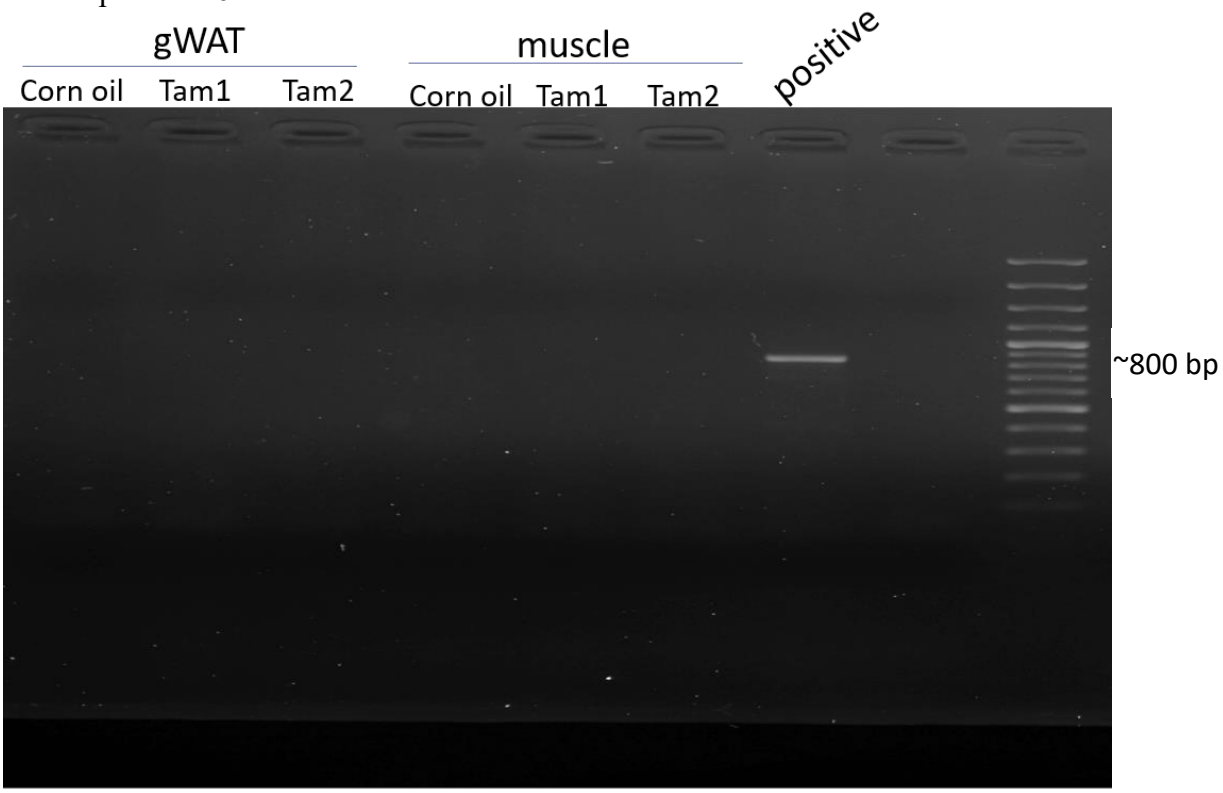
Primer pairs: R26F2/LacZR



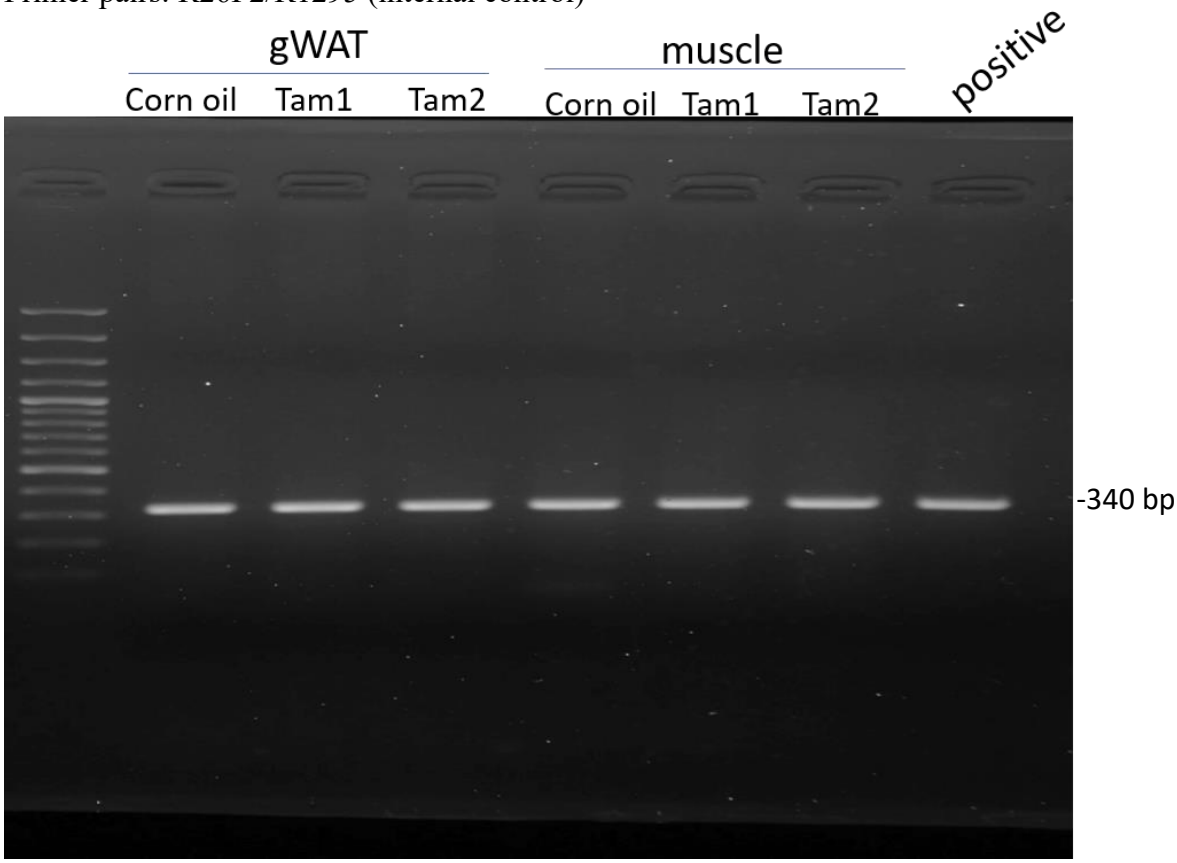
Primer pairs: R26F2/R1295 (internal control)



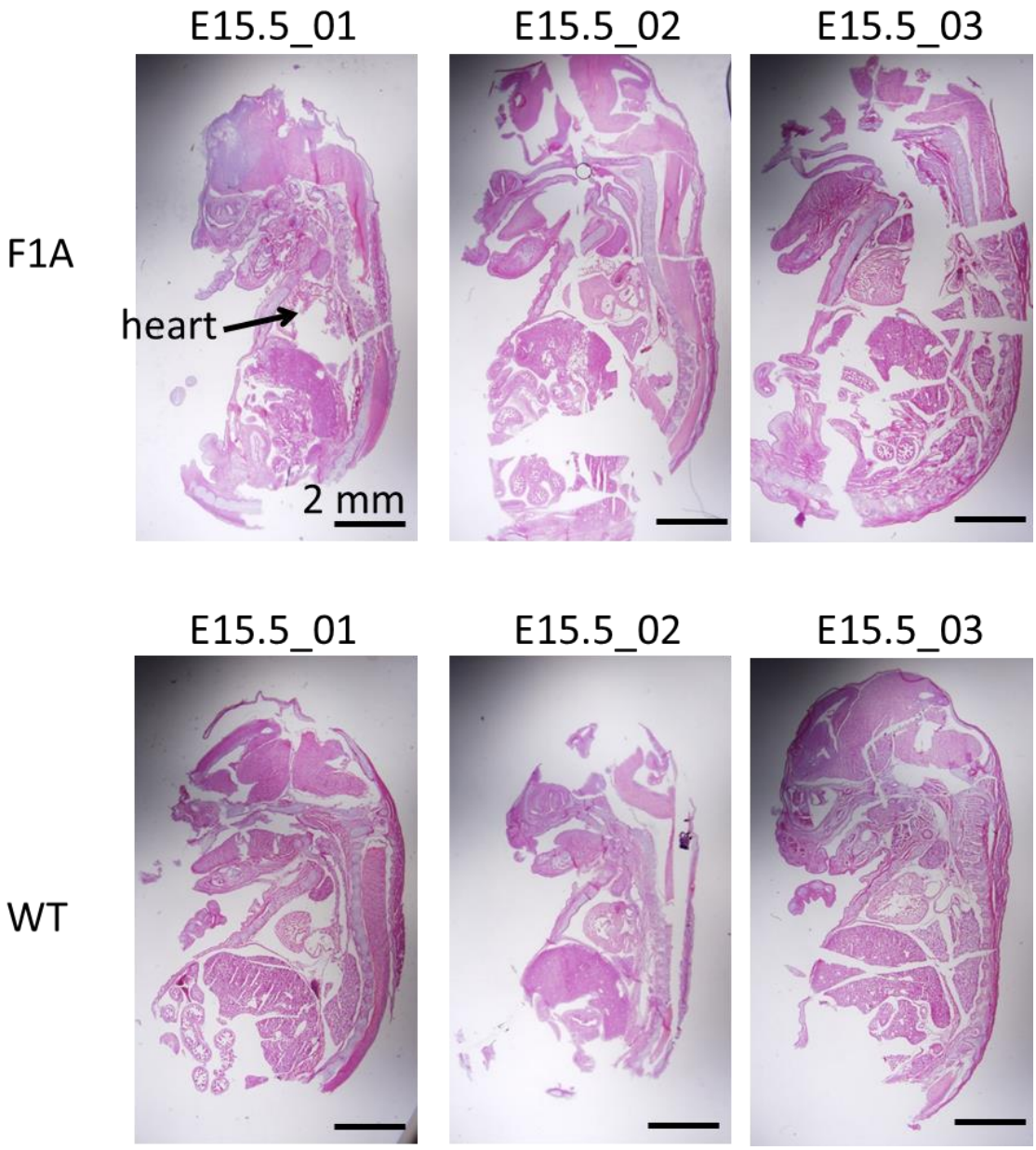
Primer pairs: R26F2/LacZR



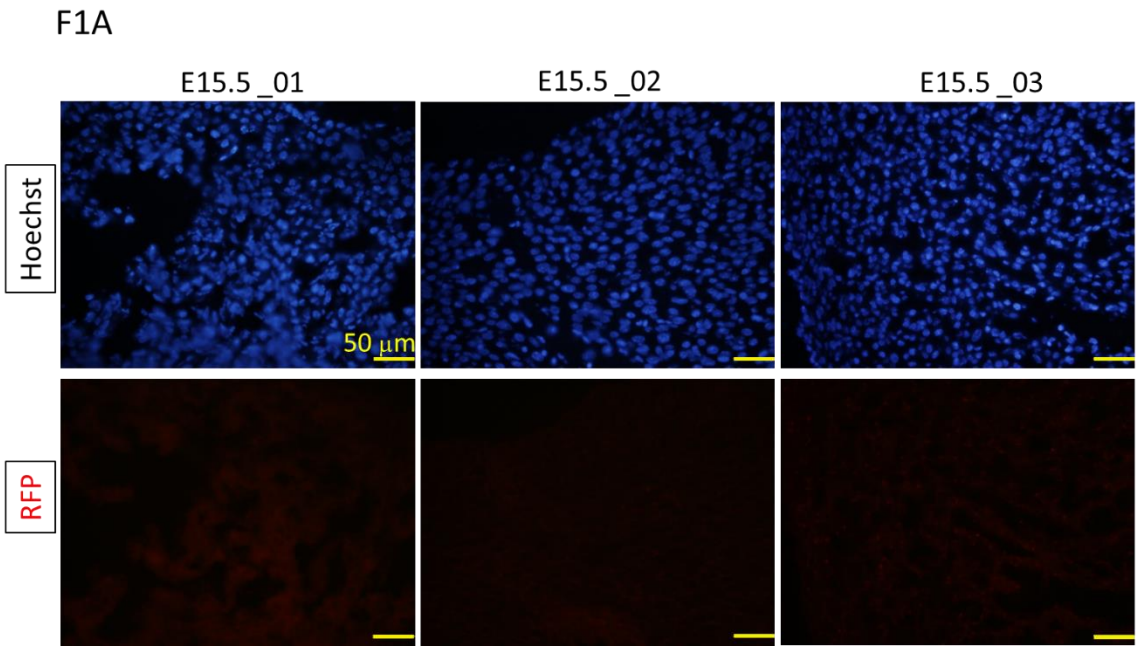
Primer pairs: R26F2/R1295 (internal control)



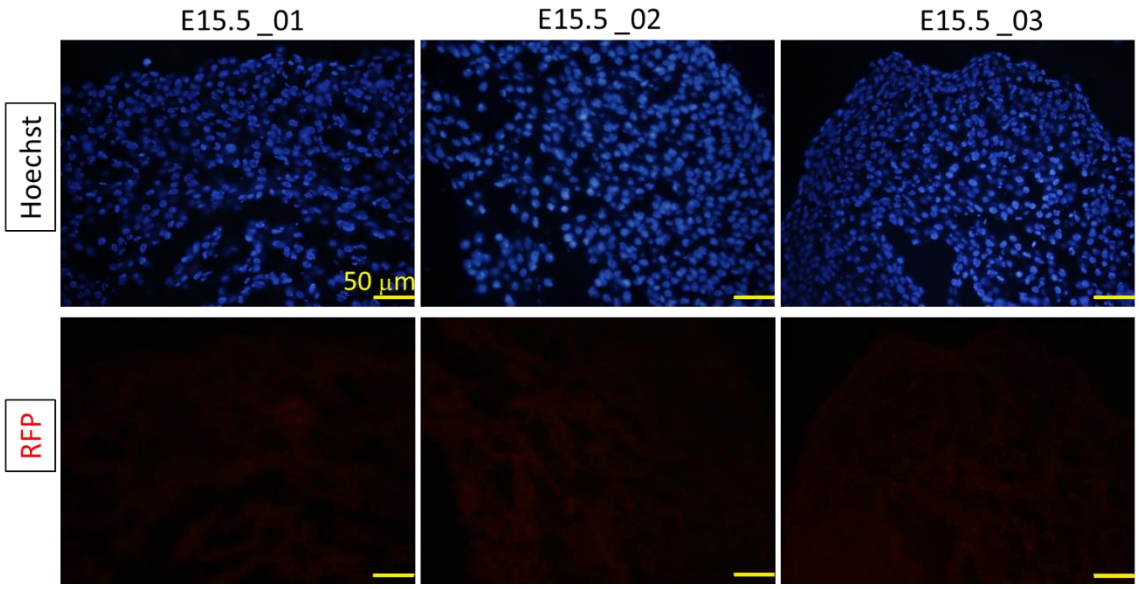
Supplement Figure S3. Immunohistochemical stainging in the heart of E18 embryo A.



B.


F1A
E15.5 _01
E15.5 _02
E15.5 _03
Hoechst
RFP
50 µm

C.


WT
E15.5 _01
E15.5 _02
E15.5 _03
Hoechst
RFP
50 µm