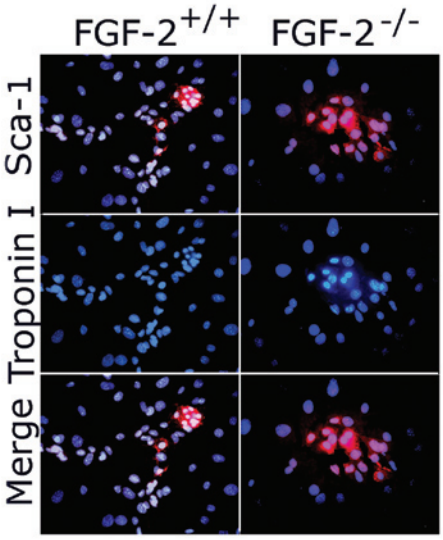
Supplemental table 1: Primer sequences.

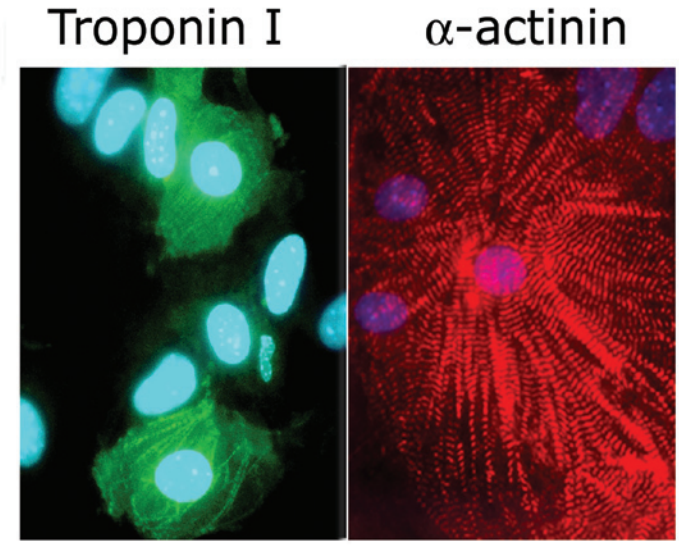
Gene product	Primers	Reaction condition	Product size (bp)
Cardiac actin	5′-CTG AGA TGT CTC TCT CTC TCT TAG-3′ 5′-ACA ATG ACT GAT GAG AGA TG-3′	30 cycles 55°C	99
Troponin I	5′-AAA GTG GAT GAA GAG AGA TA-3′ 5′-ATT CTT GCG CCA GTC TCC CA-3′	25 cycles 54°C	266
MLC-2v	5′-GCC AAG AAG CGG ATA GAA GG-3′ 5′-CTT GTG GAA ACG TTT CTC TTG CGG-3′	31 cycles 60°C	499
MLC-2a	5′-CGT GGC TCT TCT AAT GTC TTC TC-3′ 5′-AAA CAG TTG CTC TAC CTC AGC AG-3′	30 cycles 60°C	384
MEF-2C	5′-GGT TTC CGT AGC AAC TCC TAC TT-3′ 5′-CTT GAC TGA AGG ACT TTC CCT TT-3′	30 cycles 60°C	412
Nkx2.5	5′-CAG TGG AGC TGG ACA AAG CC-3′ 5′-TAG CGA CGG TTC TGG AAC CA-3′	31 cycles 55°C	216
GATA-4	5′-CTG TCA TCT CAC TAT GGG CA-3′ 5′-CCA AGT CCG AGC AGG AAT TT-3′	25 cycles 55°C	275
GAPDH	5′-GCA TGG ACT GTG GTC ATG AG-3′ 5′-CCA TCA CCA TCT TCC AGG AG-3′	22 cycles 55°C	280
Sca-1	5′-ACT GTG CCT GCA ACC TTG TCT GAG A-3′ 5′-GTC CAG GTG CTG CCT CCA TT-3′	24 cycles 62°C	322
c-kit	5′-GCC CTA ATG TCG GAA CTG AA-3′ 5′-TTG CGG ATC TCC TCT TGT CT-3′	30 cycles 60°C	319
Islet 1	5′-GCC TCA GTC CCA GAG TCA TC-3′ 5′-AGA GCC TGG TCC TCC TTC TG-3′	30 cycles 60°C	308
PPAR γ	5′-TTG CTG AAC GTG AAG CCC ATC GAG G-3′ 5′-GTC CTT GTA GAT CTC CTG GAG CAG-3′	25 cycles 55°C	200
LPL	5′-GCG TAG CAG GAA GTC TGA CC-3′ 5′-CTA CAA CTC AGG CAG AGC CC-3′	22 cycles 62°C	422
MyoD1	5′-AGG ACA CGA CTG CTT TCT TC-3′ GCA CCG CAG TAG AGA AGT GT-3′	32 cycles 57°C	464
Osteocalcin	5′-TCT GAC AAA CCT TCA TGT CC-3′ AAA TAG TGA TAC CGT AGA TGC G-3′	36 cycles 55°C	198
FGF-1	5′-TCC CGT CTT GTG ATA AAG TGG AGT G-3′ 5′-CAT TCC TCA TTT GGT GTC TGC GAG-3′	30 cycles 59°C	383
FGF-2	5′-TTC TGT CCA GGT CCC GTT TTG G -3′ 5′-AAG CGG CTC TAC TGC AAG AAC G -3′	28 cycles 60°C	237
FGF-4	5′-GGT GTG CCT TTC TTT ACC GAC GAG-3′ 5′-TTC TTG GTC CGC CCG TTC TTA CTG-3′	30 cycles 55°C	128
FGF-8	5′-ACA AAT CCA GCC CCA AAC TAC CC-3′ 5′-TCT CTG TGA ATA CGC AGT CCT TGC-3′	37 cycles 59°C	370
FGF-10	5′-GCT GTT GCT GCT TCT TGT TG-3′ 5′-CCC CTT CTT GTT CAT GGC TA-3′	30 cycles 60°C	362
BMP-2	5′-GTT TGT GTT TGG CTT GAC GC-3′ 5′-AGA CGT CCT CAG CGA ATT TG-3′	30 cycles 50°C	720
BMP-4	5′-TGT GAG GAG TTT CCA TCA CG-3′ 5′-TTA TTC TTC TTC CTG GAC CG-3′	30 cycles 50°C	566
FGF1R	5′-TGG GAG CAT CAA CCA CAC CTA CC -3′ 5′-GCC CGA AGC AGCCCT CGC CAA G -3′	35 cycles 64°C	325

TGF-β1	5′-TCA GAC ATT CGG GAA GCA GTG C-3′ 5′-AAG CAA TAG TTG GTA TCC AGG GCT C-3′	32 cycles 59°C	446
TGF-β2	5′-CAT CCC GAA TAA AAG CGA AGA GC-3′ 5′-AAA CTC CCT CCC TCC TGT CAC AAA C-3′	32 cycles 57°C	629
Snail	5′-CAG CTG GCC AGG CTC TCG GT-3′ 5′-GCG AGG GCC TCC GGA GCA-3′	25 cycles 60°C	380
VE-Cadherin	5′-TCC GAT ACG AAT ACC TGA GCA GCA C-3′	33 cycles 57°C	597
E-Cadherin	5′-CAT ACT TGA CCG TGA TGT TGG CG-3′ 5′-CAC AGT GAA GCG GCA TCT AAA GC-3′	32 cycles 59°C	651
N-cadherin	5′-ATG GCA GCG TTG TAG GTG TTG AC-3′ 5′-CGT CTG TTT TAT TAC TCC TGG TGC G-3′ 5′-TTC CTG GGT TTC TTT GTC TTG GGC-3′	30 cycles 60°C	579

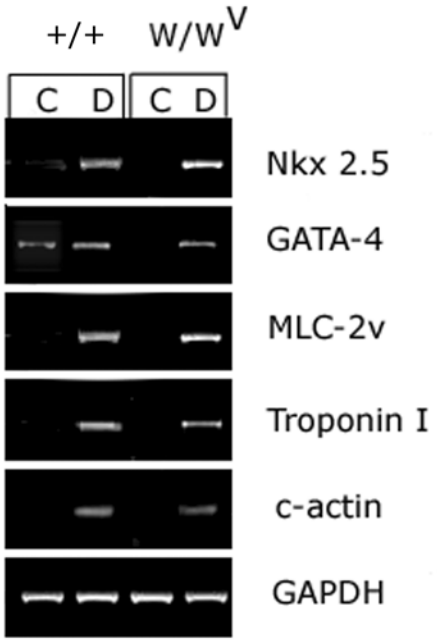
MLC-2v: myosin light chain-2v; MLC-2a: myosin light chain-2a; PPAR γ: peroxisome proliferator-activated receptor γ; LPL: lipoprotein lipase; FGF-2: fibroblast growth factor-2; BMP: bone morphogenetic protein; TGF: transforming growth factor; Sca-1: stem cell antigen 1.



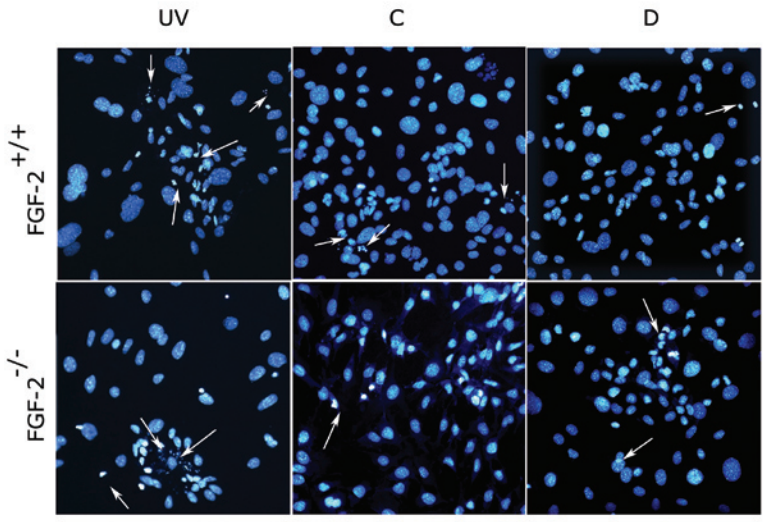
Supplemental figure 1.
Immunodetection for Sca-1 and troponin I in NMC isolated from FGF-$2^{+/+}$ and FGF-$2^{-/-}$ mice before differentiation (original magnification: 20x).



Supplemental figure 2.
Immunodetection for troponin I and α-actinin in wild-type NMC after 3 weeks in differentiation medium (original magnification: 100x).



Supplemental figure 3.
Differentiation of W/W^{v} NMC with deficient c-kit signaling into cardiomyocytes. RT-PCR analysis of cardiac specific gene expression in NMC from wild-type (+/+) and c-kit deficient (W/W^{v}) mice maintained in control (C) or differentiation (D) medium for three weeks.



Supplemental data 4.
Detection of apoptosis in NMC isolated from FGF-2$^{+/+}$ and FGF-2$^{-/-}$ mice. Expanded NMC were either maintained in control (C) or differentiation medium (D) for 24 hours or exposed to UV light for 10 min as positive control. Cells were then stained with Hoechst 33342, and damaged nuclei were counted. Apoptotic nuclei are indicated by white arrows. (original magnification: 20x).