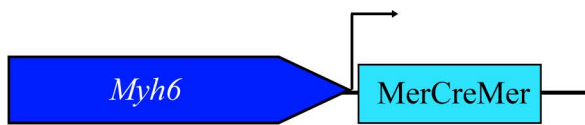
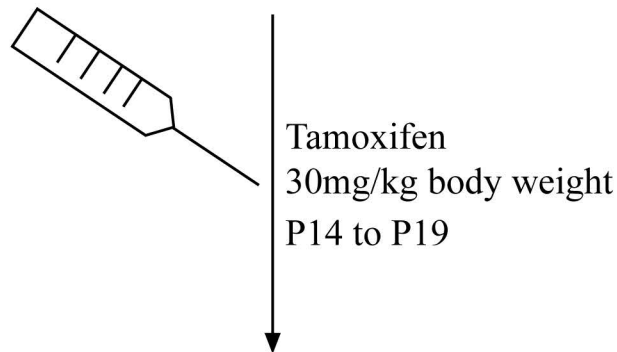
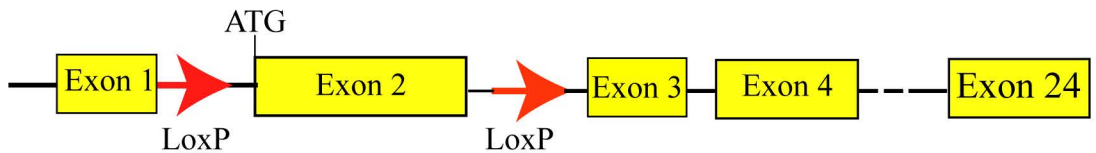


### A. Tamoxifen-inducible Cre deleter

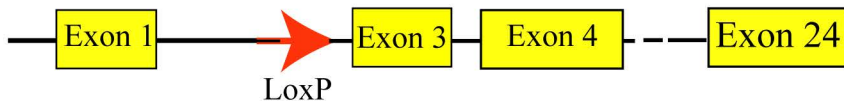


X

### B. Floxed *Dsp* gene



### C. Recombined *Dsp* allele

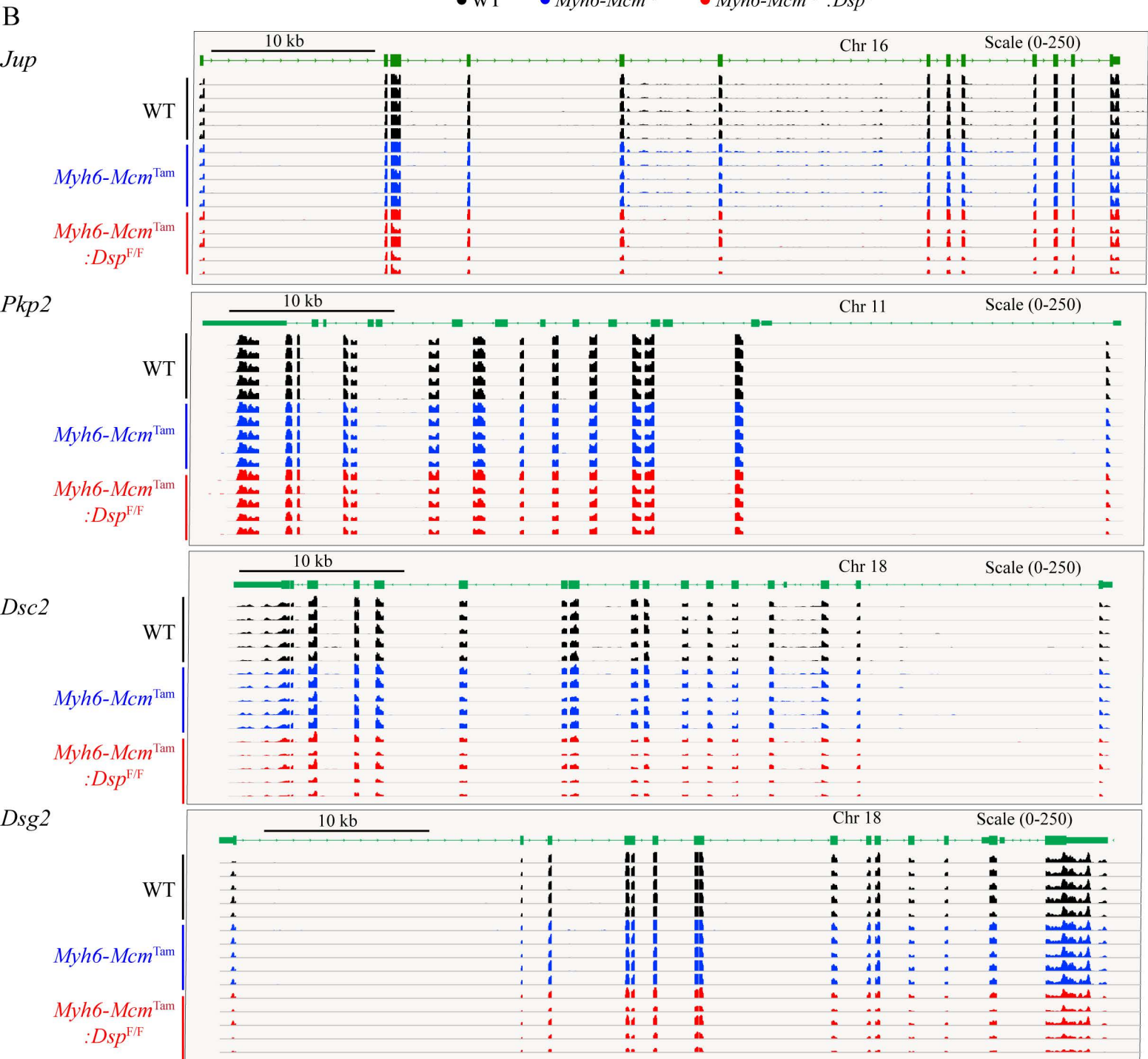
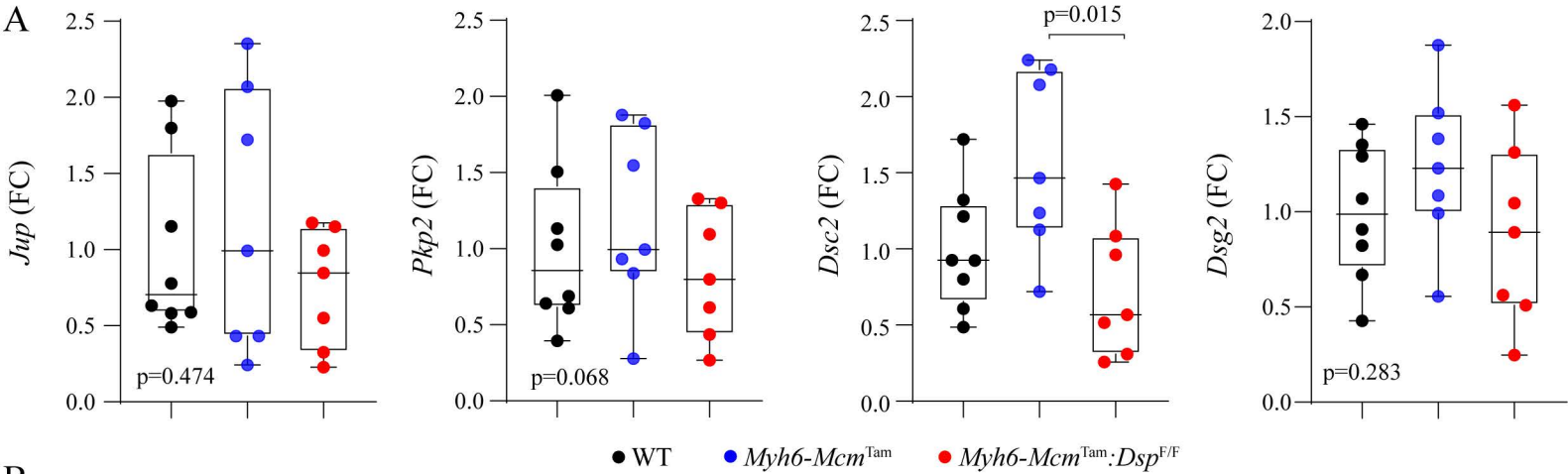


**Online Figure 1.** Schematic illustration of deletion of the *Dsp* gene in cardioac myocyte post-natally

**A.** Cardiac myocyte-specific tamoxifen-inducible cre deleter mice

**B.** Floxed *Dsp* gene wherein exon 2, containing the initiation codon, is floxed by the LoxP sequences

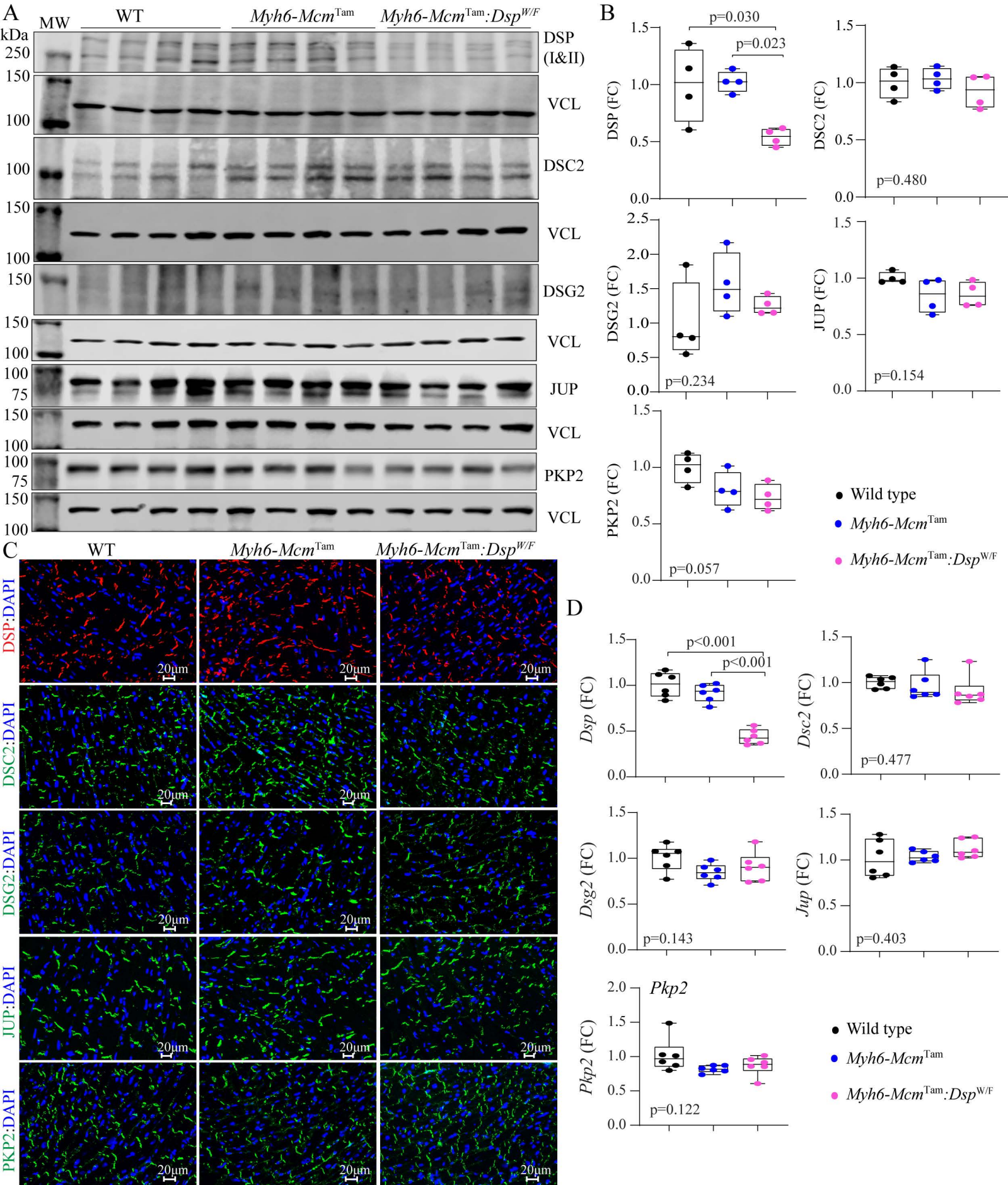
**C.** The recombined *Dsp* allele after deletion of exon 2

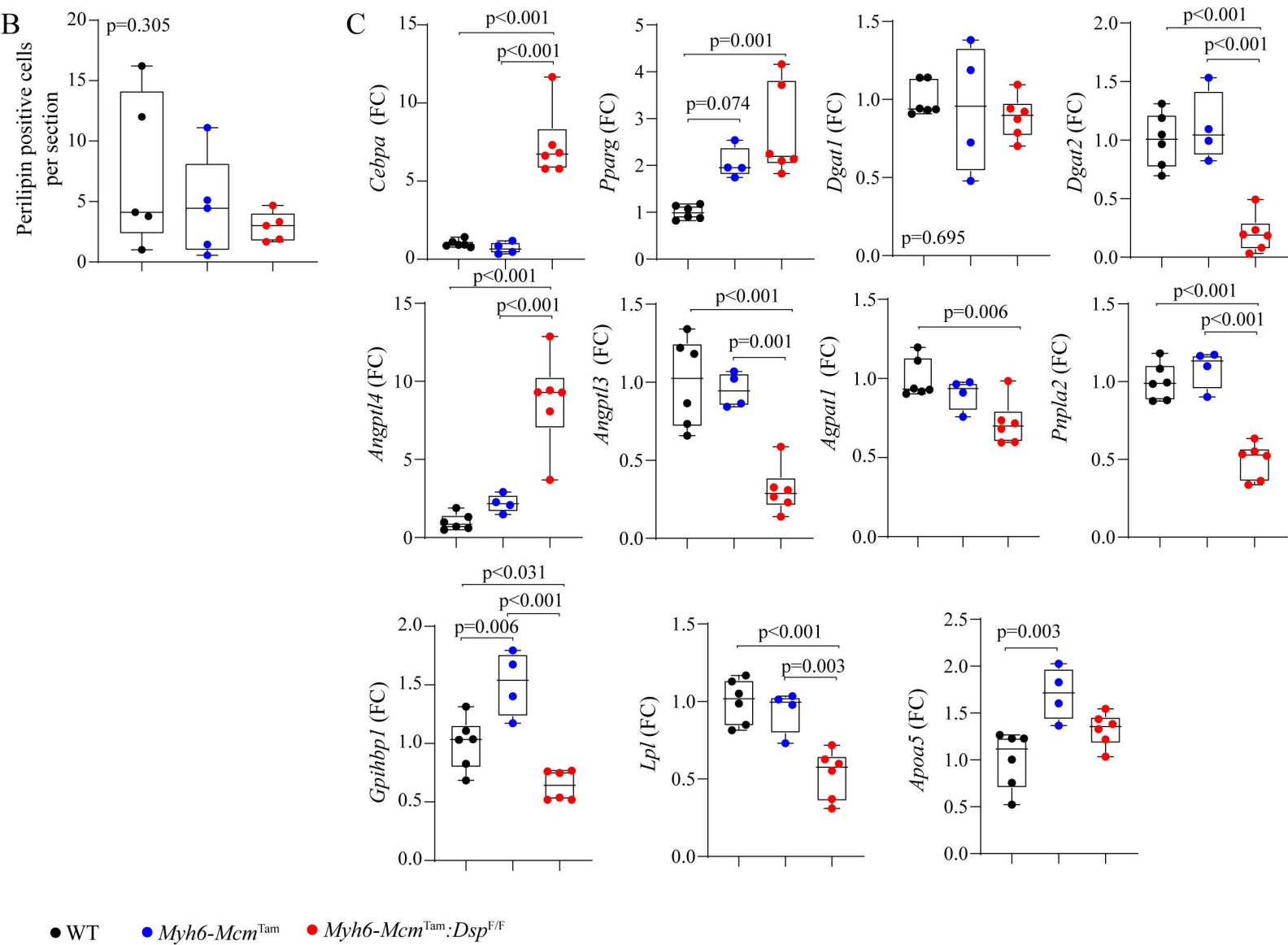
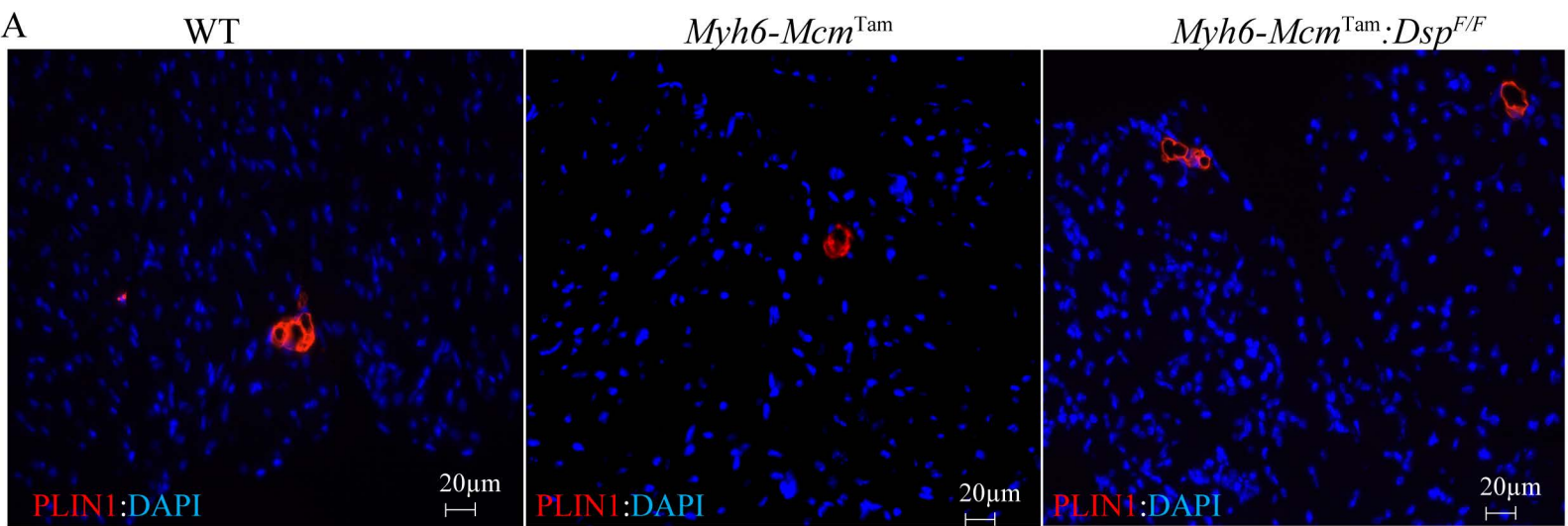


**Online Figure 2.** Transcript levels and genome browser maps of selected genes encoding desmosome proteins.

A. RT-PCR data showing transcript levels of the selected genes among the three genotypes, which were unchanged.

B. The genome browser depiction of the RNA-Seq reads mapped of the exons of the selected desmosome genes in the wild type (WT), *Myh6-Mcm<sup>Tam</sup>*, and the *Myh6-Mcm<sup>Tam</sup>:Dsp<sup>E/F</sup>* groups.





**Online Figure 4.** Adipogenic markers in the heart of *Myh6-Mcm<sup>Tam</sup>:Dsp<sup>F/F</sup>* mice.

A. Thin myocardial sections stained with perilipin1 (PLIN1), a marker of mature adipocytes.

B. Quantitative data showing the mean number of PLIN1-stained adipocytes per section in the control and experimental groups.

C. Dot plots showing the RT-PCR data representing transcript levels of selected genes involved in adipogenesis.

**Online Table 1: Oligonucleotide Primers, Antibodies, and TaqMan probes**

**Genotyping primers:**

<b>Gene</b>	<b>Forward sequence</b>	<b>Reverse sequence</b>
<i>Cre recombinase</i>	TCTATTGCACACAGCAATCCA	CCAGCATTGTGAGAACAAGG
<i>Desmoplakin</i>	GTTGGGCCTCTCGAATCAT	TCTTTGTCTGTTGCCATGTGA

**List of antibodies**

<b>Antibodies</b>	<b>Concentration</b>	<b>Supplier</b>	<b>Catalog number</b>
Anti-mouse IgG HRP linked antibody	1:4000 (IB)	Cell Signaling Technology	7076
Anti-Rabbit IgG HRP linked antibody	1:2000 (IB)	Cell Signaling Technology	7074
ASC	1:1000 (IB)	Cell Signaling Technology	67824
BAD	1:500 (IB)	Santa Cruz	8044
BCL2	1:500 (IB)	Santa Cruz	7382
CASP3	1:1000 (IB)	Cell Signaling Technology	14220
CASP8	1:1000 (IB)	Cell Signaling Technology	4927
COL1A1	1:300 (IF)	Abcam	88147
Donkey anti Rat Alexa Fluor 594	1:1000 (IF)	Invitrogen	A11007
DSC2	1:200 (IB)	Santa Cruz	70994
DSC2	1:100 (IF)	Santa Cruz	66863
DSG2	1:500 (IB)	Progen	61002
DSG2	1:50 (IF)	Progen	61002
DSP	1:1000 (IB)	Abcam	ab71690
DSP	1:250 (IF)	Progen	65146
Goat anti Mouse Alexa Fluor594	1:1000 (IF)	Invitrogen	A11005
Goat anti Rabbit Alexa Fluor 488	1:1000 (IF)	Invitrogen	A11012
GSDMD	1:1000 (IB)	Cell Signaling Technology	39754
HMGB1	1:500 (IB)	Cell Signaling Technology	6893
JUP	1:1000 (IB)	Santa Cruz	1497-R
JUP	1:1000 (IF)	Santa Cruz	1497-R
MLKL	1:1000 (IB)	Cell Signaling Technology	37705
PCM1	1:1000 (IF)	Sigma	HPA023370
PCM1	1:50 (IF)	Santa Cruz	Sc-398365
PKP2	1:1000 (IB)	Santa Cruz	18977
PKP2	1:300 (IF)	Progen	651101
PLIN	1:100 (IF)	Cell Signaling Technology	9349
RIPK1	1:1000 (IB)	Cell Signaling Technology	3493
RIPK3	1:1000 (IB)	Cell Signaling Technology	15828
TGFB	1:500 (IB)	R&D Systems	MAB1835
TUBA1A	1:1000 (IB)	Cell Signaling Technology	2125
Vinculin	1:10000 (IB)	Abcam	Ab129002
ZBP1	1:500 (IB)	Santa Cruz	271483

### Oligonucleotide primers used in qPCR reactions

Name	Sequence
<i>Agpat1</i>	Forward: AACCTTTGTCGGTTCCGCT Reverse: GACAGAGATACAGCCAGCCG
<i>Angptl3</i>	Forward: TTTGGGAGGCTCGATGGAGAA Reverse: TGCTTGCTGTCTTTCCAGTCT
<i>Angptl4</i>	Forward: GACTGCCAGGAACTCTTCCAA Reverse: GTCCAGCCTCCATCTGAAGT
<i>Apoa5</i>	Forward: AACCGAGCAGGGGCCAT Reverse: TAGTCCCAGAGGCTCTTCCG
<i>Asc</i>	Forward: GAGCAGCTGCAAACGACTAA Reverse: GACCCTGGCAATGAGTGCTT
<i>Bak</i>	Forward: CAAGATCGCCTCCAGCCTATT Reverse: CCCAGGAAGCCGGTCAAAC
<i>Bax</i>	Forward: ACAGGGGCCTTTTTGCTACA Reverse: CACTCGCTCAGCTTCTTGGT
<i>Bid</i>	Forward: CCGCAAACCTTTGCCTTAGC Reverse: AACCGTTGCTGACCTCAGAGT
<i>Bok</i>	Forward: CAGCGTATACCGGAACGTGG Reverse: TTGCCCATGTGATACCTGC
<i>Casp1</i>	Forward: ACTGACTGGGACCCTCAAGT Reverse: GCAAGACGTGTACGAGTGGT
<i>Casp3</i>	Forward: AGCTTGGAACGGTACGCTAA Reverse: GAGTCCACTGACTTGCTCCC
<i>Casp8</i>	Forward: GCGTGGAACAGGAAGTGAGTA Reverse: GAAGAGCTGTAACCTGTGGC
<i>Coll1a1</i>	Forward: TGACTGGAAGAGCGGAGAGTA Reverse: GAGTAGGGAACACACAGGTCT
<i>Col3a1</i>	Forward: CTGTAACATGGAACTGGGGAAA Reverse: CCATAGCTGAACTGAAAACCACC
<i>Gdf15</i>	Forward: CTCAACGCCGACGAGTAC Reverse: ACCCCAATCTCACCTCTGGA
<i>Gpihbp1</i>	Forward: CACAGCGGAACCGACAAAG Reverse: GACTGGCAACAGGTCTGAGT
<i>Gsdmd</i>	Forward: TTCCAGTGCCTCCATGAATGT Reverse: ACAAACAGGTCATCCCCACG
<i>Il1rn</i>	Forward: ATCCTTCTGTTTCATTCAGAGGC Reverse: TCCCAGATTCTGAAGGCTTGC
<i>Itgax</i>	Forward: TACGTATTCAGCGTGGAGAACTT Reverse: TGAAGCCCTCCTGGGACATC
<i>Lgals3</i>	Forward: TACTAGAAGCGGCCGAGC Reverse: TGTCTGCCATTTTCTGGGTA
<i>Lpl</i>	Forward: TACCCCTAGACAACGTCCA Reverse: CCAGCTGGATCCAAACCAGT
<i>Lrp1</i>	Forward: CAAAGCTGAAGGCTCCGAGT Reverse: TATGCGGACACTCTCATCGC

<i>Mgp</i>	Forward: GCAACCCTGTGCTACGAATC Reverse: CTTTTGGGCTTTAGCTCGCC
<i>Mlkl</i>	Forward: GTATTCAACAACCCCCAGGC Reverse: CGCAAGATGTTGGGAGAATCG
<i>Mmp14</i>	Forward: GCCCTCTGTCCCAGATAAGC Reverse: CCAGAACCATCGCTCCTTGA
<i>Mmp2</i>	Forward: TGCCCCCATGAAGCCTTG Reverse: TGGTACAGCTGTTGTAGGAGG
<i>Mpeg1</i>	Forward: ACAAAGCCAGACAGAGCCTT Reverse: AGGATGGAAAAGAAAGCGGTTG
<i>Noxa</i>	Forward: ATA ACTGTGGTTCTGGCGCA Reverse: CAATCCTCCGGAGTTGAGCA
<i>Pnpla2</i>	Forward: AATCTCTACCGCCTCTCGAA Reverse: AGGGTTGGGTTGGTTCAGTA
<i>Postn</i>	Forward: AGAGAAATCCCTGCACGACA Reverse: GTTGGTGCAAACAAGGTCCA
<i>Ripk1</i>	Forward: TGACTTTCACATTAAGATAGCCGA Reverse: AGTGGTGCTGCTCACTTCTTT
<i>Ripk3</i>	Forward: AGCTTTGGGATCCTCGTGTG Reverse: TCTGTCAGTGGAGGACGACT
<i>Sfrp2</i>	Forward: CCCTTTGTAAAAATGACTTCGCAC Reverse: CAGGATGATCTTGGTGTCTCTGT
<i>Slamf7</i>	Forward: GACTGACGACCTGAAAACGC Reverse: CGGCCACCTTCTTCAGAGTT
<i>Spp1</i>	Forward: AGCAAGAACTCTTCCAAGCAA Reverse: GTGAGATTCGTCAGATTCATCCG
<i>Tgfb1</i>	Forward: TGGAGCAACATGTGGA ACTC Reverse: GTCAGCAGCCGGTTACCA
<i>Tgfb2</i>	Forward: AGGAGTGGCTTACCACAAAGACA Reverse: ATTAGACGGCACGAAGGTACAGCA
<i>Tgfb3</i>	Forward: AGCTCTTCCAGATACTTCGACC Reverse: AAAGACAGCCATTCAGCGGT
<i>Timp1</i>	Forward: CATGGAAAGCCTCTGTGGATA Reverse: CTCAGAGTACGCCAGGGAAC
<i>Tnfrsf10b/Dr5</i>	Forward: TCGTCTCTTTGGACCGACA Reverse: GTCAGCTGAGTCGTTTCCGT
<i>Tnfrsf19/Troy</i>	Forward: AGTTGTCCAAGGAATGTGGCT Reverse: CCGCACATGGCTTACACTTC
<i>Traf4</i>	Forward: AGGTCCAGGTGTTAGGCTTG Reverse: GCTGCAAGTGTTCAAGTGGC
<i>Traf6</i>	Forward: CATAAGGGATGCAGGGCACA Reverse: TTGGGCACTTTACCGTCAGG
<i>Vcl</i>	Forward: GGTCTAGCAAGGGCAATGAC Reverse: TGAATAAGTGCCCGCTTGGT
<i>Vim</i>	Forward: TGCACGATGAAGAGATCCAGG Reverse: CTTTCATACTGCTGGCGCAC
<i>Zbp1 ex2-3</i>	Forward: GAGATGGGGCTCCTGCAATC Reverse: CCCATTGGCTTCCAGGAATCTT
<i>Zbp1 ex3-4</i>	Forward: CGTCAGGAAGGCCAAGACAT Reverse: TTGACCGGATTGTGCTGACA

<i>Zbp1 ex4-5</i>	Forward: CAAACGCCATCCAGATTGGTC Reverse: CGTCCCATGCCAAGGGTAGA
<i>Zbp1 ex5-6</i>	Forward: GCCACCACAACGAGATGAGC Reverse: TGTTGAATGAAGCTCCTGGGT

### TaqMan probes

Gene	TaqMan Assay ID
<i>Atp2a2</i>	Mm00437634_m1
<i>Cebpa</i>	Mm00514283_s1
<i>Ctgf</i>	Mm01192932-g1
<i>Dgat1</i>	Mm00515643_m1
<i>Dgat2</i>	Mm00499536_m1
<i>Dsc2</i>	Mm00516355_m1
<i>Dsg2</i>	Mm00514608_m1
<i>Dsp</i>	Mm01351876_m1
<i>Jup</i>	Mm00550256_m1
<i>Myh6</i>	Mm00440354_m1
<i>Myh7</i>	Mm0060555_m1
<i>Nppa</i>	Mm01255748_g1
<i>Nppb</i>	Mm01255770_g1
<i>Pkp2</i>	Mm00503159_m1
<i>Pparg</i>	Mm00440940_m1
<i>Vcl</i>	Mm00447745_m1