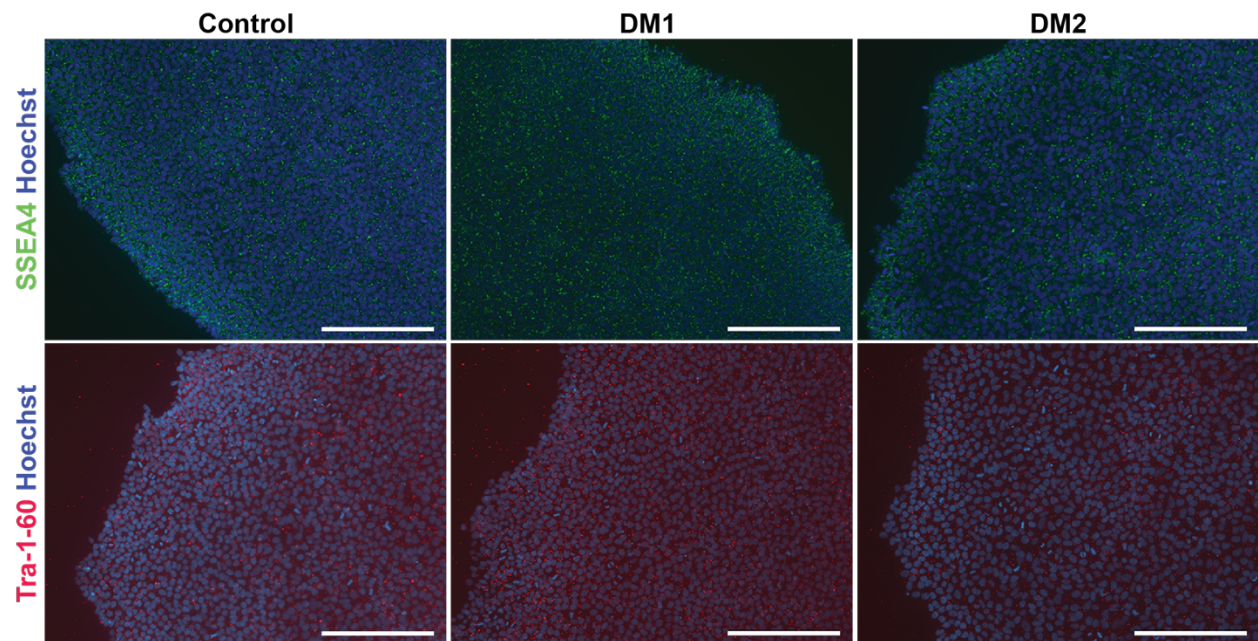
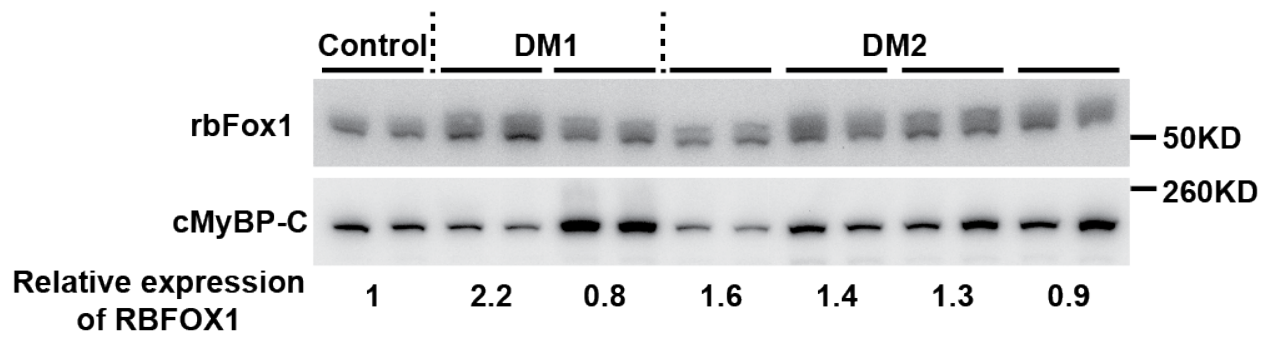


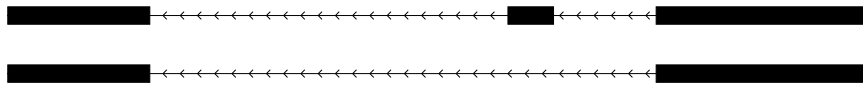
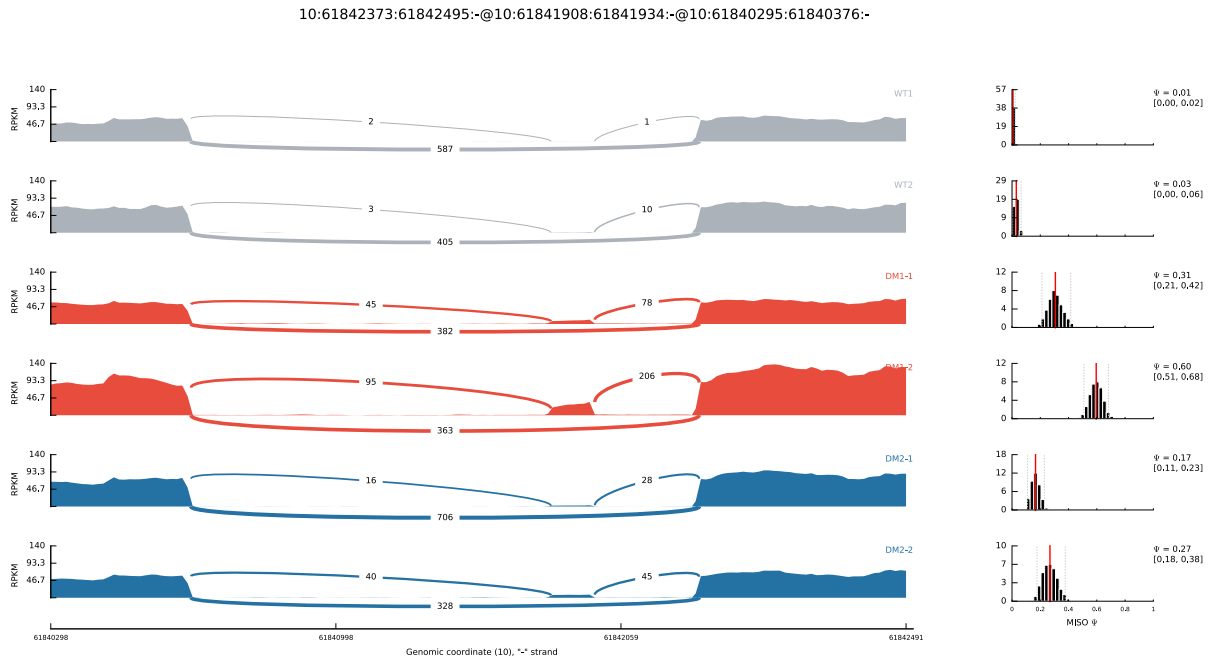
SUPPLEMENTAL INFORMATION



Supplemental Figure 1. iPSCs generated from urine derived cells express pluripotent markers. Immunostaining of iPSCs show expression of pluripotency markers SSEA4 (green) and Tra1-60 (red). Nuclei were labelled with Hoechst (blue). Scale bar = 250 μm.



Supplemental Figure 2. Expression of rbFox1 in iPSC-derived cardiomyocytes from control and DM1 or DM2 subjects. Expression of rbFox1 was normalized to c-MyBP-C protein content, cardiac myosin binding protein C, a marker of cardiomyocytes. RbFox1 was increased in 1 of 2 DM1 lines and 3 of 4 DM2 lines relative to controls. The expression is the average of two technical replicates from two independent immunoblots.



Supplemental Figure 3. Differential inclusion of ANK3 exon 40 in control, DM1, and DM2 iPSC-CMs. The data above are from RNA-seq carried out on iPSC-derived cardiomyocytes and reveal differential inclusion of exon 40 in the ANK3 gene in DM1 (red) but not DM2 (blue) cells. These data are consistent with the RT-PCR shown in Figure 9, which shows that exon 40 is differentially included in DM1 iPSC-CMs compared to control and compared to DM2, which shows minimal inclusion of exon 40.

Supplemental Table 1. Number of significant genes differentially expressed in either direction for control versus DM1 and control versus DM2 samples and for genes found in differentially expressed only in DM1, only in DM2, or shared between DM1 and DM2.

Differentially Expressed Genes	Ctrl vs DM1	Ctrl vs DM2	DM1 Only	DM2 Only	DM1 & DM2
UP	18	59	9	50	9
DOWN	124	113	75	64	49

Supplemental Table 2. Significant pathways downregulated in DM1 compared to control.

Gene Ontology Term	Adjusted P-Value	Genes
calcium ion binding (GO:0005509)	0.001	<i>ANXA1</i> <i>FBLN1</i> <i>PITPNM1</i> <i>S100A6</i> <i>SLC24A3</i> <i>SNCA</i> <i>SPOCK1</i> <i>SPOCK2</i> <i>SYT11</i> <i>THBS1</i> <i>THBS4</i>
protein binding involved in cell-matrix adhesion (GO:0098634)	0.001	<i>EMILIN1</i> <i>ITGA1</i> <i>ITGA2</i>
metal ion binding (GO:0046872)	0.001	<i>ANXA1</i> <i>FBLN1</i> <i>PITPNM1</i> <i>POSTN</i> <i>S100A6</i> <i>SLC24A3</i> <i>SNCA</i> <i>SPOCK1</i> <i>SPOCK2</i> <i>SYT11</i> <i>THBS1</i> <i>THBS4</i>
integrin binding (GO:0005178)	0.002	<i>CXCL12</i> <i>CYR61</i> <i>EMILIN1</i> <i>SFRP2</i> <i>THBS1</i> <i>THBS4</i>
vascular endothelial growth factor-activated receptor activity (GO:0005021)	0.045	<i>FLT1</i> <i>NELL2</i>
tau protein binding (GO:0048156)	0.048	<i>CLU</i> <i>SNCA</i>

Supplemental Table 3. Significant pathways downregulated in DM2 compared to controls.

Gene Ontology Term	Adjusted P-Value	Genes
protein binding involved in cell-matrix adhesion (GO:0098634)	1.163E-05	<i>EMILIN1</i> <i>ITGA1</i> <i>ITGA2</i> <i>ITGA11</i>
transmembrane receptor protein tyrosine kinase activity (GO:0004714)	0.002	<i>CRIM1</i> <i>DDR2</i> <i>EPHA4</i> <i>NTRK2</i> <i>PDGFRB</i>
collagen binding (GO:0005518)	0.01	<i>ITGA1</i> <i>ITGA2</i> <i>ITGA11</i> <i>DDR2</i>
neurotrophin binding (GO:0043121)	0.035	<i>NGFR</i> <i>NTRK2</i>
metalloendopeptidase inhibitor activity (GO:0008191)	0.05	<i>BST2</i> <i>TIMP1</i>

Supplemental Table 6. Primers used for splicing analysis

Myotubes		
Gene target	Primer sequence	Template or Source
<i>INSR</i>	F: CCAAAGACAGACTCTCAGAT	(17)
	R: AACATCGCCAAGGGACCTGC	
<i>CAPN3</i>	F: TCATCCTCCGGGTCTTCTCTG	(16)
	R: GTTCACGACTGTGTTAAGGACCTTC	
<i>mTTN</i>	F: CCGCTCCAGAAATGTATACTCCC	(16)
	R: TCCACCATCTTGTTTCTGTACG	
<i>zTTN</i>	F: GAAACAAGATGCTGACAAAAGTGC	(16)
	R: GGTCTGCTGAGCATAGGATTCTTC	
<i>MBNL1</i>	F: GCTGCCCAATACCAGGTCAAC	(16)
	R: TGGTGGGAGAAATGCTGTATGC	
<i>MBNL2</i>	F: ACAAGTGACAACACCGTAACCG	(16)
	R: TTTGGTAAAGGATGAAGAGCACC	
<i>ATP2A1</i> (<i>SERCA1</i>)	F: GTCATGGTCCTCAAGATCTCAC	(16)
	R: AGCTCTGCCTGAAGATGTGTAC	
<i>ZASP</i>	F: GCAAGACCCTGATGAAGAAGCTC	(16)
	R: GACAGAAGGCCGGATGCTG	
iPSC-derived cardiomyocytes		
Gene	Primer sequence	Template or Source
<i>SCN5A</i>	F: CTTCTGCCTGCACGCGTTCAC	(27)
	R: CAGAAGACTGTGAGGACCATC	
<i>ANK3</i>	F: CCCTGTGGTCGTCTGTCTTT	(27)
	R: CCAGGCTCAGTCAAGTAGCTG	
<i>RYR2</i>	F: TTCCAAGAATGTGCCCCAG	NM_001276345.1
	R: GTGGACAGGCAGCACAGATA	
<i>TNNT2</i>	F: GTTCTGAGGGAGAGCAGAGAC	NM_001330272.1
	R: TTTGGACTCCTCCATTGGGC	