SUPPLEMENTAL MATERIAL – ADDITIONAL TABLES

Table S1. List of distinct rare variants detected by high-throughput sequencing in our cohort. The number of patients with each variant and the reference for the published ones is provided.

Gene	Aminoacid change	Frequency	Publication
ACTC1	NM_005159:c.A361G:p.M121V	1	
ANK2	NM_001148:c.A4373G:p.E1458G	2	
ANK2	NM_001148:c.G7132A:p.E2378K	2	
ANK2	NM_001148:c.C9872G:p.P3291R	1	
ANK2	NM_001148:c.G5032A:p.E1678K	1	
ANK2	NM_020977:c.G5536A:p.E1846K	4	Mohler PJ et al Circulation 2007;115:432-41
ANK2	NM_001148:c.C8354T:p.S2785L	1	
ANK2	NM_001148:c.A7183C:p.T2395P	1	
ANK2	NM_001148:c.A7117G:p.T2373A	1	
ANK2	NM_020977:c.T4646A:p.V1549D	1	
ANK2	NM_001148:c.A6883G:p.T2295A	1	
ANK2	NM_001148:c.C2819G:p.A940G	1	
ANK2	NM_001148:c.G4745A:p.R1582Q	1	
ANK2	NM_001148:c.C5231T:p.A1744V	2	
ANK2	NM_001148:c.C5914A:p.Q1972K	1	
ANK2	NM_001148:c.C5231A:p.A1744D	1	
ANK2	NM_020977:c.C5461T:p.R1821W	1	Mohler PJ et al Proc Natl Acad Sci USA 2004;101:9137-42
ANK2	NM_001127493:exon28:c.2838-4G>A	1	
CASQ2	NM_001232:c.1183_1185del:p.395_395del	4	
CASQ2	NM_001232:c.1132_1134del:p.378_378del	1	
CAV3	NM_001234:c.C216G:p.C72W	2	Cronk LB et al Heart Rhythm 2007;4:161-6
CSRP3	NM_001127656:c.G449A:p.C150Y	2	
CSRP3	NM_001127656:c.T10C:p.W4R	3	Knöll R et al. Cell 2002;111:943–55
CSRP3	NM_00112765:c.415-1G>T	1	
DES	NM_001927:c.G1286A:p.R429Q	1	
DES	NM_001927:c.A616G:p.N206D	1	
DES	NM_001927:exon3:c.640-4C>G	1	
DSC2	NM_004949:c.G857T:p.G299V	1	
DSC2	NM_004949:c.C266T:p.S89L	1	Garcia-Pavia P et al Heart 2011; 97(21):1744-52
DSC2	NM_004949:c.C1787T:p.A596V	1	den Haan AD et al Circ Cardiovasc Genet 2009;2(5):428-35
DSC2	NM_004949:c.T2194G:p.L732V	2	Quarta et al. Circulation 2011;123:2701-9.
DSC2	NM_024422:c.2685_2686insAG:p.A895fs	5	Quarta et al. Circulation 2011;123:2701-9.
DSC2	NM_004949:c.G2287A:p.A763T	1	
DSC2	NM_004949:c.G304A:p.E102K	2	Quarta et al. Circulation 2011;123:2701-9.
DSC2	NM_024422:exon11:c.1264-5C>T	2	
DSG2	NM_001943:c.A2110G:p.I704V	1	

DSG2	NM_001943:c.G1174A:p.V392I	2	Klauke et al. Human Molecular Genetics 2010;19:4595-607.
DSG2	NM_001943:c.C2750T:p.A917V	1	Kapplinger JD et al J Am Coll Cardiol 2011;57:2317–27
DSG2	NM_001943:c.A545G:p.N182S	1	
DSG2	NM_001943:c.T473G:p.V158G	1	Syrris et al. European Heart Journal 2007;28:581-8.
DSG2	NM_001943:c.G166A:p.V56M	3	Syrris et al. European Heart Journal 2007;28:581-8.
DSG2	NM_001943:c.A1376G:p.Y459C	1	
DSG2	NM_001943:c.C121A:p.H41N	1	
DSG2	NM_001943:c.A3109G:p.N1037D	1	
DSP	NM_004415:c.A5363G:p.Q1788R	1	
DSP	NM_004415:c.G1445A:p.C482Y	1	
DSP	NM_004415:c.G5881A:p.V1961I	1	
DSP	NM_004415:c.C2422T:p.R808C	1	
DSP	NM_004415:c.C5178A:p.N1726K	1	Klauke et al. Human Molecular Genetics 2010;19:4595-607.
DSP	NM_004415:c.A3706G:p.R1236G	2	
DSP	NM_004415.2:c.C6482T:p.A2760V	1	
DSP	NM_004415.2:c.T5835G:p.F2544L	1	
DSP	NM_004415.2:c.G1696A:p.A566T	1	Basso et al. European Heart Journal 2006;27:1847-54.
DSP	NM_004415.2:c.G4411A:p.D2070N	4	
DSP	NM_004415.2:c.T8191C:p.Y2731H	1	
DSP	NM_004415:c.G4105A:p.E1369K	1	
DSP	NM_004415:c.A5120G:p.Q1707R	1	
DSP	NM_004415.2:p.K2450N	1	
DSP	NM_001008844:c.1_2insA:p.M1fs	16	
DSP	NM_004415:c.G1483A:p.V495M	1	
JUP	NM_002230:c.A1324T:p.I442F	1	
JUP	NM_002230:c.A2069G:p.N690S	1	
JUP	NM_002230:c.C1096G:p.P366A	1	
KCNE1	NM_001127670:c.C106T:p.R36C	1	
KCNE1	NM_001127670:c.C314T:p.S105L	1	
KCNH2	NM_172057:c.G2144A:p.R715Q	1	
KCNH2	NM_001204798:c.G1490T:p.G497V	1	
KCNQ1	NM_000218:c.C458T:p.T153M	1	Kapplinger JD Heart Rhythm 2009 ;6(9):1297-303
KCNQ1	NM_000218:c.G1179T:p.K393N	1	
KCNQ1	NM_000218:c.G1520A:p.R507Q	1	
KCNQ1	NM_000218:c.C1201T:p.R401W	1	
LDB3	NM_001080115:c.G352A:p.V118M	3	
LDB3	NM_001080114:c.G1264C:p.A422P	1	
LDB3	NM_001080114:c.G459C:p.Q153H	1	
LMNA	NM_170708:c.C1840T:p.R614C	1	
MYBPC3	NM_000256:c.C3811T:p.R1271X	1	
MYBPC3	NM_000256:c.3580_3591del:p.1194_1197del	1	
MYBPC3	NM_000256:c.C3771A:p.N1257K	2	

MYBPC3	NM_000256:c.3333_3334insGTG:p.E1111delinsEW	1	
MYBPC3	NM_000256:c.G2497A:p.A833T	1	Morner S et al J Mol Cell Cardiol 2003;35:841-9;
MYBPC3	NM_000256:c.G3763A:p.A1255T	2	Richard P et al Circulation 2003;107:2227-32
MYBPC3	NM_000256:c.2512_2513insG:p.E838fs	1	
MYBPC3	NM_000256:c.C1504T:p.R502W	3	Richard P et al Circulation 2003;107:2227-32
MYBPC3	NM_000256:c.2524_2525insT:p.Y842fs	1	
MYBPC3	NM_000256:c.C1303T:p.Q435X	1	
MYBPC3	NM_000256:c.G3065C:p.R1022P	1	Brito D et al Rev Port Cardiol 2005;24:1137-46
MYBPC3	NM_000256:c.G961A:p.V321M	1	Maron BJ et al Heart Rhythm 2012;9(1):57-63
MYBPC3	NM_000256:c.G977A:p.R326Q	2	Niimura H et al Circulation 2002;105:446-51
MYBPC3	NM_000256:c.G1484A:p.R495Q	3	Niimura H et al N Engl J Med 1998;338:1248-57
MYBPC3	NM_000256:c.T1573C:p.Y525H	1	
MYBPC3	NM_000256:c.3227_3228insT:p.D1076fs	1	Zimmerman RS et al Genet Med 2010;12:268-78
MYBPC3	NM_000256:c.3621delC:p.S1207fs	1	
MYBPC3	NM_000256:c.2373_2374insG:p.Q791fs	3	Niimura H et al. N Engl J Med 1998;338:1248-57
MYBPC3	NM_000256:c.G1471A:p.V491M	1	Millat G et al Clin Chim Acta. 2010;411(23-24):1983-91
MYBPC3	NM_000256:c.G2429A:p.R810H	1	Nanni L et al Bioch Biophys Res Commun 2003;309:391-8
MYBPC3	NM_000256:c.C2827T:p.R943X	1	Van Driest SL et al J Am Coll Cardiol 2004;44:1903-10
MYBPC3	NM_000256:c.C1302A:p.Y434X	1	
MYBPC3	NM_000256:c.2093delC:p.A698fs	1	
MYBPC3	NM_000256:c.C3572T:p.S1191L	1	
MYBPC3	NM_000256:c.C1483G:p.R495G	1	Morita H et al N Engl J Med 2008;358:1899-908.
MYBPC3	NM_000256:c.3402_3404del:p.1134_1135del	1	
MYBPC3	NM_000256:c.C859T:p.H287Y	1	Millat G et al Eur J Med Genet. 2010;53(5):261-7
MYBPC3	NM_000256:c.G772A:p.E258K	2	Niimura H et al. N Engl J Med 1998;338:1248-57
MYBPC3	NM_000256:c.G2459A:p.R820Q	1	Konno T et al J Am Coll Cardiol 2003;41:781-6
MYBPC3	NM_000256:c.C484T:p.Q162X	1	
MYBPC3	NM_000256:exon13:c.1090+1G>A	1	Girolami F et al. J Cardiovasc Med 2006;7:601-7
MYBPC3	NM_000256:c.3596_3605del:p.1199_1202del	1	
MYBPC3	NM_000256:c.2604delT:p.G868fs	1	
MYBPC3	NM_000256:c.G1624C:p.E542Q	1	Charron P et al Circulation 1998 97(22):2230-6.
MYBPC3	NM_000256:c.1019_1026del:p.340_342del	1	
MYBPC3	NM_000256:c.174_184del:p.58_62del	3	Lakdawala NK et al Am J Cardiol 2011 Sep 21
MYBPC3	NM_000256:c.G655C:p.V219L	1	Van Driest SL et al J Am Coll Cardiol 2004;44:1903-10
MYBPC3	NM_000256:c.2605_2606insC:p.P869fs	1	
MYBPC3	NM_000256:exon26:c.2603-2A>G	1	
MYBPC3	NM_000256:exon13:c.1090+1G>T	2	
MYBPC3	NM_000256:exon27:c.2905+1G>A	1	Kimura A et al Nat Genet 1997;16:379-82

MYBPC3	NM_000256:exon17:c.1624+5G>T	1	
MYBPC3	NM_000256:exon30:c.3330+5G>C	1	Watkins H et al Nat Genet 1995 ;11(4):434-7.
MYBPC3	NM_000256:exon17:c.1624+4A>T	1	Ingles J et al J Med Genet 2005;42 (10) :e59.
MYH6	NM_002471:c.G622A:p.D208N	1	
MYH6	NM_002471:c.C5410A:p.Q1804K	1	
MYH6	NM_002471:c.C245T:p.P82L	1	
MYH6	NM_002471:c.C70A:p.L24I	2	
MYH6	NM_002471:c.G5477A:p.G1826D	1	
MYH6	NM_002471:c.G5476A:p.G1826S	1	
MYH6	NM_002471:c.C5644A:p.R1882S	1	
MYH6	NM_002471:c.C3932T:p.T1311I	1	
MYH6	NM_002471:c.C3427T:p.R1143W	1	
MYH6	NM_002471:c.G3164A:p.R1055Q	1	
MYH6	NM_002471:c.C4704A:p.N1568K	1	
MYH6	NM_002471:c.G5594A:p.R1865Q	1	Granados-Riveron JT et al Hum Mol Genet 2010 Jul 23
MYH6	NM_002471:c.A1763C:p.D588A	1	
MYH6	NM_002471:c.C5140T:p.R1714W	1	
MYH6	NM_002471:c.C2425T:p.R809C	1	
MYH6	NM_002471:c.G2071A:p.V691I	1	
MYH6	NM_002471:c.C1327T:p.R443C	1	
MYH6	NM_002471:exon35:c.5163+1G>T	1	
MYH6	NM_002471:exon23:c.2928+5G>A	3	
MYH7	NM_000257:c.G767A:p.G256E	1	Fananapazir L et al Proc Natl Acad Sci U S A 1993;90:3993-7
MYH7	NM_000257:c.A2717G:p.D906G	2	Alpert NR et al Am J Physiol Heart Circ Physiol 2005;288:H1097-102
MYH7	NM_000257:c.C2167T:p.R723C	1	Watkins H et al N Engl J Med 1992;326:1108-14
MYH7	NM_000257:c.G746A:p.R249Q	1	Woo A et al Heart 2003;89:1179-85
MYH7	NM_000257:c.G1063A:p.A355T	2	Richard P et al Circulation 2003;107:2227-32
MYH7	NM_000257:c.G2389A:p.A797T	1	Erdmann J et al Clin Genet 2003;64:339-49
MYH7	NM_000257:c.A2681G:p.E894G	1	Van Driest SL et al J Am Coll Cardiol 2004;44:602-10
MYH7	NM_000257:c.G1988A:p.R663H	3	Gruver EJ et al Am J Cardiol 1999;83:13H-8H
MYH7	NM_000257:c.T1433A:p.I478N	1	
MYH7	NM_000257:c.G1144T:p.D382Y	1	Kaski JP et al Circ Cardiovasc Genet 2009;2:436-41
MYH7	NM_000257:c.T2945C:p.M982T	1	Morita H et al Circulation 2006;113:2697-705
MYH7	NM_000257:c.A1051G:p.K351E	1	Mohiddin SA et al. Genet Test 2003 ;7(1):21-7
MYH7	NM_000257:c.A2669C:p.Q890P	1	
MYH7	NM_000257:c.G2156A:p.R719Q	1	Consevage MW et al Hum Mol Genet 1994;3:1025-6
MYH7	NM_000257:c.G5342A:p.R1781H	1	Laredo R. Rev Esp Cardiol 2006;59(10):1008-18
MYH7	NM_000257:c.G50A:p.R17H	1	
MYH7	NM_000257:c.C1279A:p.L427M	2	
MYH7	NM_000257:c.G298A:p.A100T	1	
MYH7	NM_000257:c.G3622A:p.D1208N	1	
MYH7	NM_000257:c.A2464T:p.M822L	1	Mohiddin SA et al Genet Test 2003;7(1):21-7
MYH7	NM_000257:c.A2783G:p.D928G	1	

MYH7	NM_000257:c.C1207T:p.R403W	2	Charron P et al Eur Heart J 1998;19:139-145
MYH7	NM_000257:c.G2221C:p.G741R	1	Van Driest SL et al J Am Coll Cardiol 2004 ;44(3):602-10.
MYH7	NM_000257:c.T1870A:p.Y624N	1	Ohsuzu F et al Int J Cardiol 1997;62:203-209
MYH7	NM_000257:c.G2609A:p.R870H	1	Nishi H et al Circulation 1993; 88(4):343
MYH7	NM_000257:c.G1816A:p.V606M	1	Olivotto I et al Mayo Clin Proc 2008;83(6):630-8
MYH7	NM_000257:c.G2348A:p.R783H	1	Waldmuller S et al Clin Chem 2008;54(4):682-7.
MYH7	NM_000257:c.A2846T:p.E949V	1	
MYH7	NM_000257:c.2537_2539del:p.846_847del	1	
MYH7	NM_000257:c.G4066A:p.E1356K	1	Van Driest SL et al J Am Coll Cardiol 2004 ;44(3):602-10.
MYH7	NM_000257:c.A2792G:p.E931G	1	
MYL2	NM_000432:c.G64A:p.E22K	1	Poetter K et al Nat Genet 1996 ;13(1):63-9
MYL2	NM_000432:c.A401C:p.E134A	1	Olivotto I et al. Mayo Clin Proc 2008;83(6):630-8
MYL2	NM_000432:c.G37A:p.A13T	1	Poetter K et al Nat Genet 1996;13:63-9.
MYL3	NM_000258:c.C476T:p.T159M	1	
MYL3	NM_000258:c.C460T:p.R154C	1	
PDLIM3	NM_001114107:c.A883G:p.T295A	1	
PDLIM3	NM_014476:c.G547T:p.V183L	1	
PKP2	NM_001005242:c.C485T:p.T162M	1	
PKP2	NM_001005242:c.T1809G:p.C603W	2	
PKP2	NM_001005242:c.A1372G:p.I458V	2	
PKP2	NM_001005242:c.G302A:p.R101H	1	Fressart et al Europace 2010;12:861-8.
PKP2	NM_001005242:c.G174T:p.E58D	1	Fressart et al Europace 2010;12:861-8.
PKP2	NM_001005242:c.G775T:p.E259X	1	Quarta G et al Circulation 2011 Jun 14;123(23):2701-9.
PKP4	NM_001005476:c.C2120T:p.A707V	1	
PKP4	NM_001005476:c.A1879G:p.I627V	1	
PKP4	NM_001005476:c.C3233G:p.S1078C	2	
PKP4	NM_001005476:c.C956T:p.T319M	1	
PKP4	NM_001005476:c.A329G:p.Q110R	1	
PKP4	NM_001005476:c.A2168G:p.Y723C	1	
PKP4	NM_001005476:c.C2969T:p.T990I	1	
PKP4	NM_001005476:c.G3311A:p.R1104Q	1	
PLN	NM_002667:c.G26A:p.R9H	1	
PLN	NM_002667:c.T152C:p.L51P	1	
PLN	NM_002667:c.T53C:p.I18T	1	
PLN	NM_002667:c.C73T:p.R25C	1	
PNN	NM_002687:c.C914T:p.A305V	1	
PNN	NM_002687:c.A1646C:p.H549P	1	
RBM20	NM_001134363:c.G850A:p.G284R	3	
RBM20	NM_001134363:c.C3266G:p.P1089R	1	
RBM20	NM_001134363:c.G3373A:p.E1125K	5	
RBM20	NM_001134363:c.C2213T:p.P738L	1	
RBM20	NM_001134363:c.C2239T:p.H747Y	1	
RBM20	NM_001134363:c.C1364T:p.S455L	4	Refaat MM et al Heart Rhythm.2012 Mar;9(3):390-6.
RBM20	NM_001134363:c.G1633A:p.V545I	1	

RBM20	NM_001134363:c.G3023A:p.R1008Q	1	
RBM20	NM_001134363:c.G1766A:p.R589Q	1	
RYR2	NM_001035:c.G8274T:p.K2758N	1	
RYR2	NM_001035:c.G3038A:p.R1013Q	1	Medeiros-Domingo A et al J Am Coll Cardiol 2009;54:2065-74
RYR2	NM_001035:c.G5102C:p.G1701A	1	
RYR2	NM_001035:c.G9455T:p.R3152L	1	
RYR2	NM_001035:c.C2080T:p.R694X	1	
RYR2	NM_001035:exon39:c.5917-1G>C	1	
RYR2	NM_001035:c.C10681G:p.L3561V	1	
RYR2	NM_001035:c.C3037T:p.R1013W	1	
RYR2	NM_001035:c.C3151T:p.R1051C	1	
RYR2	NM_001035:c.G6450A:p.M2150I	1	
RYR2	NM_001035:exon20:c.2203+5G>A	1	
RYR2	NM_001035:exon72:c.10324-4A>G	2	
SCN5A	NM_198056.2:c.C3749T:p.T1304M	2	Wattanasirichaigoon D et al Am J Med Genet 1999;86:470-6
SCN5A	NM_000335:c.G496A:p.A166T	1	
SCN5A	NM_000335:c.A619G:p.T207A	1	
SCN5A	NM_001099405:c.G5306A:p.S1769N	1	
SCN5A	NM_000335:c.G1982A:p.R661Q	1	
SCN5A	NM_001099405:c.G5401A:p.D1819N	1	Millat G et al Clin Genet 2006;70(3):214-27
SCN5A	NM_000335:c.G1655C:p.G552A	1	
SCN5A	NM_001099405:c.T5956C:p.F2004L	1	
SCN5A	NM_001160161:exon25:c.4275+4C>T	1	
TCAP	NM_003673:c.G4A:p.A2T	1	
TCAP	NM_003673:c.37_39del:p.13_13del	1	Bos J et al Mol Genet Metab 2006;88:78-85
TMEM43	NM_024334:c.G91A:p.E31K	1	
TMEM43	NM_024334:exon3:c.163-3C>-	1	
TNNI3	NM_000363:c.G526A:p.V176M	2	
TNNI3	NM_000363:c.G485A:p.R162Q	1	Bos JM et al Mol Genet Metab. 2006; 88(1):78-85
TNNI3	NM_000363:c.G586A:p.D196N	1	Richard P et al Circulation 2003;107:2227-32
TNNI3	NM_000363:c.C592G:p.L198V	1	Maron BJ et al Heart Rhythm 2012;9(1):57-6
TNNI3	NM_000363:c.G511A:p.A171T	1	Mogensen J et al J Clin Invest, 2003;111:209-216
TNNT2	NM_001001430:c.G842A:p.W287X	1	Richard P et al Circulation 2003;107:2227-32
TNNT2	NM_001001430:c.C814T:p.R278C	2	Watkins H et al N Engl J Med 1995;332:1058-64
TNNT2	NM_001001430:c.C296T:p.A104V	3	Yamauchi-Tahikara K et al Heart 1996;76:63-5
TNNT2	NM_001001430:c.A562G:p.T194A	1	
TNNT2	NM_001001430:c.G266A:p.R94H	1	Millat G et al Clin Chem Acta 2010;411:1983-91
TNNT2	NM_001001430:c.C259T:p.R92W	2	Moolman JC et al J Am Coll Cardiol 1997;29:549-55
TNNT2	NM_001001430:c.463_465del:p.E160del	1	Watkins H et al N Engl J Med 1995;332:1058-64
TNNT2	NM_001001430:c.T221A:p.I79N	1	Watkins H et al N Engl J Med 1995;332:1058-64
TNNT2	NM_001001432:c.A794T:p.N271I	1	Gimeno JR et al Rev Esp Cardiol. 2009;62(12):1473-7.
TNNT2	NM_001001432:exon15:c.804-3C>A	1	
TPM1	NM_001018005:c.G466A:p.E192K	1	Lakdawala NK et al Am J Cardiol 2011 Sep 21

TPM1	NM_001018005:c.A653G:p.D254G	1	
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TTN	NM_003319:c.G19256A:p.R6419K	1	
TTN	NM_133379:c.C13028A:p.T4343N	1	
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TTN	NM_003319:c.G19060T:p.A6354S	2	
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TTN	NM_003319:c.G77056C:p.A25686P	2	
TTN	NM_133379:c.C16321T:p.R5441X	1	
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TTN	NM_003319:c.G78524A:p.R26175Q	1	
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TTN	NM_133378:c.G25499A:p.R8500H	1	Arimura T et al. J Am Coll Cardiol 2009;54(4):334-42.
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TTN	NM_003319:c.C54277G:p.P18093A	1	
TTN	NM_003319:c.G3271C:p.G1091R	2	
TTN	NM_003319:c.G69409T:p.V23137L	1	
TTN	NM_003319:c.G29752A:p.A9918T	1	
TTN	NM_003319:c.C61199T:p.S20400F	3	
TTN	NM_003319:c.T4258C:p.F1420L	2	
TTN	NM_003319:c.C18404G:p.A6135G	1	
TTN	NM_003319:c.C62729T:p.A20910V	1	
TTN	NM_003319:c.A7085G:p.Q2362R	2	
TTN	NM_003319:c.G73852A:p.E24618K	1	
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TTN	NM_003319:c.A9689G:p.E3230G	1	
TTN	NM_003319:c.A58496T:p.K19499I	1	

TTN	NM_003319:c.C74741G:p.P24914R	1	
TTN	NM_003319:c.G30488A:p.R10163H	1	
TTN	NM_133378:c.A30866G:p.E10289G	1	
TTN	NM_133379:c.C15122G:p.T5041R	1	
TTN	NM_003319:c.A61090G:p.I20364V	1	
TTN	NM_003319:c.T68527C:p.Y22843H	1	
TTN	NM_003319:c.16639_16644del:p.5547_5548del	1	
TTN	NM_003319:c.T39904C:p.S13302P	1	
TTN	NM_003319:c.C25657T:p.R8553C	1	
TTN	NM_003319:c.G11659A:p.V3887M	1	
TTN	NM_003319:c.G55615A:p.G18539S	1	
TTN	NM_133378:c.G16579C:p.E5527Q	1	
TTN	NM_133378:c.T32555C:p.V10852A	1	
TTN	NM_003319:c.G18785A:p.R6262H	1	
TTN	NM_003319:c.G23990A:p.S7997N	1	
TTN	NM_133378:exon99:c.25310-2A>C	1	
TTN	NM_133437:exon9:c.1398+4C>T	1	
TTN	NM_133437:exon156:c.43097-5C>G	2	
TTN	NM_133437:exon44:c.9977-4G>A	1	
TTN	NM_133437:exon179:c.70574-3T>C	1	
VCL	NM_003373:c.G1237A:p.A413T	1	
VCL	NM_003373:c.A1166G:p.D389G	2	
VCL	NM_003373:c.A1907G:p.H636R	1	
VCL	NM_003373:c.T1973C:p.V658A	1	
VCL	NM_003373:c.A1157G:p.K386R	1	
VCL	NM_003373:c.A1555C:p.I519L	1	

Table S2. Rare nsSNPs frequency comparison between our sequencing results and a set of 1,287 UK controls with exome sequence data generated by the UK10K project (www.uk10k.org) for 19 HCM/DCM associated genes. To avoid technical artifacts associated with indel calling, and to properly match cases and controls, we restricted this analysis to nsSNPs and the 180 HCM UK Caucasian HCM cases. The columns show: the proportion of the 1,287 UK controls with exome sequence data generated by the UK10K project (www.uk10k.org) and 180 HCM cases that carry rare nsSNPs (rare defined by frequency less than 0.5% in the 1000 Genomes dataset), a Fisher exact test P-value to quantify the case-control difference, the 95% confidence interval for the estimated proportion of HCM cases explained by rare nsSNPs variants in each gene (Supplemental statistical methods), and (in the rightmost column) the estimated probability that a rare nsSNP found in a HCM case in each gene is disease causing (Supplemental statistical methods).

nsSNP: nonsynonymous single nucleotide polymorphism; CI: confidence interval.

Gene	Rare nsSNPs – Frequency in controls	Rare nsSNPs – Frequency in patients	P-value	95% CI for the proportion of cases explained	Probability that a nsSNP is causal
MYH7	0.025	0.172	3.86E-13	[0.0964-0.207]	0.856
TNNT2	0.003	0.044	8.41E-05	[0.0136-0.0708]	0.930
TNNI3	0.000	0.017	0.002	[0.00333-0.0415]	1.000
MYBPC3	0.045	0.106	0.007	[0.014-0.104]	0.570
PLN	0.001	0.022	0.001	[0.006-0.0498]	0.965
MYL2	0.007	0.022	0.065	[0-0.044]	NA
MYL3	0.004	0.011	0.208	[0-0.0301]	NA
ACTC1	0.001	0.006	0.230	[0-0.0167]	NA
TPM1	0.000	0.006	0.123	[0-0.0167]	NA
CSRP3	0.012	0.028	0.168	[0-0.0467]	NA
MYH6	0.053	0.056	0.608	[0-0.0501]	NA
DES	0.005	0.011	0.256	[0-0.0294]	NA
TNNC1	0.000	0.000	1.000	[0-0]	NA
LDB3	0.012	0.011	1.000	[0-0.0228]	NA
TCAP	0.004	0.000	1.000	[0-0]	NA
LMNA	0.005	0.000	1.000	[0-0]	NA
RBM20	0.061	0.056	0.871	[0-0.0361]	NA
PDLIM3	0.011	0.000	0.241	[0-0]	NA
VCL	0.038	0.028	0.677	[0-0.0244]	NA

Table S3. Rare nsSNPs frequency comparison between our sequencing results and a set of 1,287 UK controls with exome sequence data generated by the UK10K project (www.uk10k.org) for genes associated with arrhythmogenic right ventricular cardiomyopathy and ion channel disease. To avoid technical artifacts associated with indel calling, and to properly match cases and controls, we restricted this analysis to nsSNPs and the 180 HCM UK Caucasian HCM cases. The columns show: the proportion of the 1,287 UK controls with exome sequence data generated by the UK10K project (www.uk10k.org) and 180 HCM cases that carry rare nsSNPs (rare defined by frequency less than 0.5% in the 1000 Genomes dataset), a Fisher exact test P-value to quantify the case-control difference, the 95% confidence interval for the estimated proportion of HCM cases explained by rare nsSNPs variants in each gene (Supplemental statistical methods), and (in the rightmost column) the estimated probability that a rare nsSNP found in a HCM case in each gene is disease causing (Supplemental statistical methods).

nsSNP: nonsynonymous single nucleotide polymorphism; CI: confidence interval.

Gene	Rare nsSNPs - Frequency in controls	Rare nsSNPs - Frequency in patients	P-value	95% CI for the proportion of cases explained	Probability that a nsSNP is causal
DSP	0.040	0.061	0.240	[0-0.0629]	NA
ANK2	0.039	0.044	0.690	[0-0.0427]	NA
DSG2	0.040	0.044	0.842	[0-0.0418]	NA
KCNE1	0.004	0.006	0.544	[0-0.0167]	NA
KCNQ1	0.012	0.011	1.000	[0-0.0228]	NA
CAV3	0.001	0.000	1.000	[0-0]	NA
TGFB3	0.002	0.000	1.000	[0-0]	NA
KCNJ2	0.003	0.000	1.000	[0-0]	NA
JUP	0.014	0.011	1.000	[0-0.0209]	NA
SCN5A	0.043	0.039	1.000	[0-0.0319]	NA
CASQ2	0.006	0.000	0.607	[0-0]	NA
DSC2	0.034	0.028	0.828	[0-0.0267]	NA
TMEM43	0.013	0.006	0.716	[0-0.0149]	NA
KCNH2	0.014	0.006	0.500	[0-0.0147]	NA
KCNE2	0.019	0.000	0.064	[0-0]	NA
PKP2	0.049	0.028	0.264	[0-0.02]	NA
RYR2	0.068	0.028	0.037	[0-0.0161]	NA

Table S4. Combinations of variants in patients with complex genotypes.

Patient	Gene	Variant
H2	*MYH7*	NM_000257:c.G767A:p.G256E
	TTN	NM_003319:c.C59039T:p.A19680V
	TTN	NM_003319:c.C61509A:p.H20503Q
H4	*MYH6*	NM_002471:c.G622A:p.D208N
	PLN	NM_002667:c.G26A:p.R9H
	TTN	NM_003319:c.C53597T:p.T17866I
H5	*ANK2*	NM_001148:c.G7132A:p.E2378K
	DSP	NM_004415:c.A5363G:p.Q1788R
	LMNA	NM_170708:c.C1840T:p.R614C
H9	*TCAP*	NM_003673:c.G4A:p.A2T
	TTN	NM_003319:c.C60217A:p.P20073T
	TTN	NM_133378:c.G17911A:p.A5971T
H10	*TTN*	NM_133437:exon9:c.1398+4C>T
	MYH7	NM_000257:c.C2167T:p.R723C
	TTN	NM_003319:c.T20954G:p.V6985G
H11	*ANK2*	NM_001148:c.A4373G:p.E1458G
	MYBPC3	NM_000256:c.3596_3605del:p.1199_1202del
	TTN	NM_133378:exon120:c.28031-1G>A
H12	*ANK2*	NM_001148:c.C9872G:p.P3291R
	MYH7	NM_000257:c.G746A:p.R249Q
	TTN	NM_133378:c.29769_29770insAGA:p.V9923delinsVE
	TTN	NM_133378:c.A11831C:p.Q3944P
	TTN	NM_133378:c.A21241G:p.K7081E
H13	*DSG2*	NM_001943:c.A2110G:p.I704V
	MYH7	NM_000257:c.G1063A:p.A355T
H14	*MYBPC3*	NA(NM_000256:exon17:c.1624+4A>T)
	RBM20	NM_001134363:c.G850A:p.G284R
	TMEM43	NM_024334:c.G91A:p.E31K
	TTN	NM_003319:c.C76097T:p.T25366M
H15	*ANK2*	NM_001148:c.A6883G:p.T2295A
	MYL2	NM_000432:c.A401C:p.E134A
H16	*DES*	NM_001927:c.G1286A:p.R429Q
	LDB3	NM_001080115:c.G352A:p.V118M
	MYH7	NM_000257:c.G2389A:p.A797T
	TTN	NM_133378:c.29769_29770insAGA:p.V9923delinsVE
	TTN	NM_133378:c.G17632A:p.A5878T
H19	*MYBPC3*	NM_000256:c.C3811T:p.R1271X
	PKP4	NM_001005476:c.C2120T:p.A707V
	SCN5A	NM_198056.2:c.C3749T:p.T1304M
	TTN	NM_003319:c.G55868A:p.R18623H
H20	*TNNT2*	NM_001001432:c.G842A:p.W287X
	TTN	NM_003319:c.A42481G:p.S14161G
	TTN	NM_003319:c.G20528A:p.R6843H
	TTN	NM_003319:c.G62191A:p.V20731M
	TTN	NM_003319:c.T68075C:p.I22692T
	TTN	NM_133379:c.A13936G:p.K4646E
H21	*PKP2*	NM_001005242:c.C485T:p.T162M
	TTN	NM_003319:c.A755G:p.K252R
H24	*DSP*	NM_001008844:c.G1445A:p.C482Y

	TTN	NM_003319:c.A30247G:p.M10083V
H25	*DSC2*	NM_004949:c.T2194G:p.L732V
	DSG2	NM_001943:c.G1174A:p.V392I
	MYBPC3	NM_000256:exon13:c.1090+1G>T
	TNNT2	NM_001001432:c.C814T:p.R278C
	VCL	NM_003373:c.G1237A:p.A413T
H26	*TPM1*	NM_000366:exon4:c.375-3C>T
	MYH6	NM_002471:c.C5410A:p.Q1804K
	TTN	NM_003319:c.C19652T:p.T6551M
	TTN	NM_003319:c.C78211T:p.R26071W
	TTN	NM_003319:c.T69794C:p.I23265T
	TTN	NM_133378:c.A31491T:p.E10497D
H27	*MYH7*	NM_000257:c.A2681G:p.E894G
	TTN	NM_003319:c.G18213T:p.K6071N
H28	*SCN5A*	NM_000335:c.G496A:p.A166T
	TTN	NM_003319:c.C41935T:p.P13979S
	TTN	NM_003319:c.G22882A:p.V7628I
H29	*MYBPC3*	NM_000256:c.3580_3591del:p.1194_1197del
	MYBPC3	NM_000256:c.C3771A:p.N1257K
	MYL2	NM_000432:c.G37A:p.A13T
	PKP2	NM_001005242:c.T1809G:p.C603W
	TTN	NM_003319:c.G26749A:p.E8917K
H30	*MYH7*	NM_000257:c.G1988A:p.R663H
	TNNT2	NM_001001432:c.C296T:p.A104V
	TTN	NM_133378:c.A11831C:p.Q3944P
	TTN	NM_133378:c.A21241G:p.K7081E
	TTN	NM_133378:c.C29126T:p.A9709V
H32	*DES*	NM_001927:exon3:c.640-4C>G
	DSP	NM_001008844:c.G4084A:p.V1362I
	MYBPC3	NM_000256:c.3333_3334insGTG:p.E1111delinsEW
	VCL	NM_003373:c.A1166G:p.D389G
H35	*CSRP3*	NM_001127656:c.G449A:p.C150Y
	TTN	NM_003319:c.G38395C:p.D12799H
	TTN	NM_133378:c.29769_29770insAGA:p.V9923delinsVE
H37	*MYBPC3*	NM_000256:c.G2497A:p.A833T
	MYH7	NM_000257:c.T1433A:p.I478N
	TTN	NM_003319:c.C65429G:p.A21810G
H38	*MYH7*	NM_000257:c.G1988A:p.R663H
	TNNT2	NM_001001432:c.C296T:p.A104V
	TTN	NM_133378:c.A11831C:p.Q3944P
	TTN	NM_133378:c.A21241G:p.K7081E
	TTN	NM_133378:c.C29126T:p.A9709V
H41	*DSC2*	NM_024422:c.2685_2686insAG:p.A895fs
	TTN	NM_003319:c.T64415A:p.I21472N
H45	*DSC2*	NM_004949:c.T2194G:p.L732V
	DSG2	NM_001943:c.G1174A:p.V392I
	TNNI3	NM_000363:c.G526A:p.V176M
H47	*MYBPC3*	NM_000256:exon13:c.1090+1G>A
	TTN	NM_003319:c.A30554C:p.Q10185P
	TTN	NM_003319:c.C71099G:p.A23700G
	TTN	NM_003319:c.G34727A:p.R11576Q
	TTN	NM_133379:c.G16160A:p.C5387Y

	VCL	NM_003373:c.A1907G:p.H636R
H48	*LDB3*	NM_001080115:c.G352A:p.V118M
	MYBPC3	NM_000256:c.C3771A:p.N1257K
	MYL2	NM_000432:c.G37A:p.A13T
	PKP2	NM_001005242:c.T1809G:p.C603W
H51	*DSP*	NM_001008844:c.1_2insA:p.M1fs
	MYBPC3	NM_000256:c.2512_2513insG:p.E838fs
H52	*MYBPC3*	NM_000256:c.C1504T:p.R502W
	TNNT2	NM_001001432:c.C296T:p.A104V
H53	*DSG2*	NM_001943:c.G166A:p.V56M
	TNNT2	NM_001001432:c.A562G:p.T194A
	TTN	NM_133378:c.29769_29770insAGA:p.V9923delinsVE
	TTN	NM_133378:c.29783_29784insAAT:p.E9928delinsEX
H54	*TMEM43*	NM_024334:exon3:c.163-3C>-
	MYH6	NM_002471:c.C245T:p.P82L
	MYH6	NM_002471:c.C70A:p.L24I
	PDLIM3	NM_001114107:c.A883G:p.T295A
	RBM20	NM_001134363:c.C3266G:p.P1089R
	TTN	NM_003319:c.A4221T:p.R1407S
	TTN	NM_003319:c.A7620G:p.I2540M
	TTN	NM_003319:c.C4151A:p.A1384E
H55	*DSP*	NM_001008844:c.1_2insA:p.M1fs
	LDB3	NM_001080115:c.G352A:p.V118M
	TTN	NM_003319:c.A64406T:p.D21469V
	TTN	NM_003319:c.G2962A:p.V988M
	TTN	NM_133378:c.C15300G:p.D5100E
H56	*MYBPC3*	NM_000256:c.2524_2525insT:p.Y842fs
	TTN	NM_133378:c.A22762G:p.I7588V
	TTN	NM_133378:c.G16609A:p.E5537K
H58	*MYH7*	NM_000257:c.G1144T:p.D382Y
	RYR2	NM_001035:c.G8274T:p.K2758N
H59	*CASQ2*	NM_001232:c.1183_1185del:p.395_395del
	MYH7	NM_000257:c.T2945C:p.M982T
	TNNI3	NM_000363:c.G586A:p.D196N
	TTN	NM_003319:c.C44513G:p.A14838G
	TTN	NM_003319:c.G38281A:p.E12761K
	TTN	NM_003319:c.G42626A:p.G14209D
H60	*MYBPC3*	NM_000256:c.G3065C:p.R1022P
	RBM20	NM_001134363:c.G850A:p.G284R
	TTN	NM_133379:c.T16469C:p.L5490S
H61	*TTN*	NM_003319:c.A42481G:p.S14161G
	TTN	NM_003319:c.G20528A:p.R6843H
	TTN	NM_003319:c.G41263C:p.A13755P
	TTN	NM_133379:c.A13936G:p.K4646E
H62	*RYR2*	NM_001035:c.G3038A:p.R1013Q
	TTN	NM_003319:c.G18213T:p.K6071N
	TTN	NM_133378:c.G21088A:p.E7030K
H63	*MYBPC3*	NM_000256:c.G961A:p.V321M
	MYH7	NM_000257:c.A1051G:p.K351E
	TNNI3	NM_000363:c.G526A:p.V176M
	TTN	NM_003319:c.C19698G:p.D6566E
H64	*MYH7*	NM_000257:c.2537_2539del:p.846_847del

	TTN	NM_003319:c.A12505G:p.T4169A
H65	*ANK2*	NM_001148:c.C2819G:p.A940G
	MYBPC3	NM_000256:c.459delC:p.P153fsX5
H66	*MYBPC3*	NM_000256:c.G977A:p.R326Q
	MYH7	NM_000257:c.A2717G:p.D906G
H68	*CASQ2*	NM_001232:c.1132_1134del:p.378_378del
	DSP	NM_001008844:c.C2422T:p.R808C
	LDB3	NM_001080114:c.G459C:p.Q153H
	RBM20	NM_001134363:c.G3373A:p.E1125K
	TTN	NM_133378:c.G19937T:p.R6646I
H69	*MYH7*	NM_000257:c.A2669C:p.Q890P
	TTN	NM_003319:c.T44951C:p.L14984P
H70	*PKP4*	NM_001005476:c.A1879G:p.I627V
	TNNT2	NM_001001432:c.G266A:p.R94H
	TTN	NM_003319:c.G49167A:p.M16389I
	TTN	NM_003319:c.G55868A:p.R18623H
H71	*MYBPC3*	NM_000256:c.G1484A:p.R495Q
	TTN	NM_003319:c.C77066T:p.A25689V
	TTN	NM_003319:c.G60895A:p.G20299S
H72	*DES*	NM_001927:c.A616G:p.N206D
	DSC2	NM_024422:c.2685_2686insAG:p.A895fs
	TTN	NM_003319:c.C3910T:p.R1304C
H74	*DSP*	NM_004415:c.C5178A:p.N1726K
	PKP2	NM_001005242:c.A1372G:p.I458V
	TTN	NM_003319:c.G3250C:p.V1084L
H75	*MYBPC3*	NM_000256:exon17:c.1624+4A>T
	TTN	NM_003319:c.A13241C:p.E4414A
	TTN	NM_003319:c.C71099G:p.A23700G
	TTN	NM_003319:c.G34727A:p.R11576Q
	TTN	NM_003319:c.G77051A:p.R25684Q
	TTN	NM_133379:c.G16160A:p.C5387Y
H77	*DSG2*	NM_001943:c.A1376G:p.Y459C
	KCNQ1	NM_000218:c.G1179T:p.K393N
	PKP4	NM_001005476:c.C3233G:p.S1078C
	TNNT2	NM_001001432:c.C259T:p.R92W
	TTN	NM_003319:c.A75400G:p.I25134V
	TTN	NM_003319:c.C20350A:p.P6784T
	TTN	NM_003319:c.C55365A:p.N18455K
	TTN	NM_003319:c.C68102T:p.S22701F
	TTN	NM_003319:c.G12770A:p.G4257D
	TTN	NM_003319:c.G22724C:p.S7575T
	TTN	NM_003319:c.G37594A:p.V12532M
	TTN	NM_003319:c.G63341A:p.R21114H
	TTN	NM_003319:c.G64570A:p.A21524T
	TTN	NM_003319:c.G74696A:p.R24899H
	TTN	NM_003319:c.T63631G:p.C21211G
	TTN	NM_133378:c.A15092G:p.N5031S
	TTN	NM_133378:c.A16443G:p.I5481M
	TTN	NM_133378:c.A30663C:p.E10221D
	TTN	NM_133378:c.C19806G:p.F6602L
	TTN	NM_133378:c.G21758A:p.R7253H
	TTN	NM_133379:c.G14492A:p.C4831Y

H79	*CASQ2*	NM_001232:c.1183_1185del:p.395_395del
	TTN	NM_003319:c.C61405T:p.P20469S
	TTN	NM_003319:c.C64111T:p.R21371W
H80	*MYBPC3*	NM_000256:c.3227_3228insT:p.D1076fs
	TCAP	NM_003673:c.37_39del:p.13_13del
H81	*PDLIM3*	NM_014476:c.G547T:p.V183L
	PKP4	NM_001005476:c.C956T:p.T319M
	TTN	NM_003319:c.A31229G:p.N10410S
	TTN	NM_003319:c.C60274T:p.L20092F
	TTN	NM_003319:c.G22676A:p.R7559Q
	TTN	NM_003319:c.G31441C:p.E10481Q
	TTN	NM_003319:c.G8176A:p.V2726M
	TTN	NM_133378:c.A17270G:p.K5757R
	TTN	NM_133378:exon99:c.25310-2A>C
H82	*MYH7*	NM_000257:c.G2156A:p.R719Q
	PNN	NM_002687:c.C914T:p.A305V
	TTN	NM_003319:c.A45736G:p.T15246A
	TTN	NM_003319:c.C26945T:p.A8982V
H83	*MYH7*	NM_000257:c.G5342A:p.R1781H
	TTN	NM_003319:c.A54649G:p.K18217E
H84	*ANK2*	NM_001127493:exon28:c.2838-4G>A
	DSG2	NM_001943:c.C121A:p.H41N
	DSP	NM_001008844:c.1_2insA:p.M1fs
	DSP	NM_004415:c.A3706G:p.R1236G
H85	*RBM20*	NM_001134363:c.G850A:p.G284R
	TTN	NM_003319:c.G13480A:p.V4494I
	TTN	NM_003319:c.G57644T:p.G19215V
	TTN	NM_003319:c.T5227G:p.S1743A
H86	*MYBPC3*	NM_000256:c.3621delC:p.S1207fs
	TTN	NM_133378:c.G20425A:p.G6809S
H87	*MYBPC3*	NM_000256:c.2373_2374insG:p.Q791fs
	TTN	NM_133378:c.29769_29770insAGA:p.V9923delinsVE
H88	*CAV3*	NM_001234:c.C216G:p.C72W
	DSP	NM_001008844:c.1_2insA:p.M1fs
	MYBPC3	NM_000256:c.2373_2374insG:p.Q791fs
	RYR2	NM_001035:c.G5102C:p.G1701A
H89	*ANK2*	NM_001148:c.G4745A:p.R1582Q
	MYBPC3	NM_000256:c.G1471A:p.V491M
	RBM20	NM_001134363:c.G3373A:p.E1125K
H90	*MYBPC3*	NM_000256:c.G2429A:p.R810H
	MYH6	NM_002471:c.G5476A:p.G1826S
	MYH6	NM_002471:c.G5477A:p.G1826D
	TTN	NM_003319:c.G19707T:p.R6569S
H91	*MYBPC3*	NM_000256:c.C2827T:p.R943X
	PKP4	NM_001005476:c.C3233G:p.S1078C
	TTN	NM_003319:c.A42481G:p.S14161G
	TTN	NM_003319:c.G20528A:p.R6843H
	TTN	NM_003319:c.G62191A:p.V20731M
	TTN	NM_003319:c.T68075C:p.I22692T
	TTN	NM_133379:c.A13936G:p.K4646E
H92	*ANK2*	NM_020977:c.G5536A:p.E1846K
	MYH7	NM_000257:c.C1279A:p.L427M

H93	*MYH6*	NM_002471:c.C5644A:p.R1882S
	TTN	NM_003319:c.A30247G:p.M10083V
H94	*JUP*	NM_002230:c.C1096G:p.P366A
	TTN	NM_003319:c.A45736G:p.T15246A
H95	*DSP*	NM_004415.2:c.C6482T:p.A2760V
	RBM20	NM_001134363:c.C2213T:p.P738L
	RBM20	NM_001134363:c.C2239T:p.H747Y
	TTN	NM_003319:c.G24796C:p.E8266Q
	TTN	NM_003319:c.G26312A:p.R8771H
H96	*CASQ2*	NM_001232:c.1183_1185del:p.395_395del
	DSP	NM_001008844:c.1_2insA:p.M1fs
	MYBPC3	NM_000256:exon27:c.2905+1G>A
	TTN	NM_003319:c.G19256A:p.R6419K
	TTN	NM_133378:c.C28748T:p.A9583V
H97	*DSC2*	NM_004949:c.G2287A:p.A763T
	MYBPC3	NM_000256:c.C1302A:p.Y434X
	TTN	NM_133379:c.C13028A:p.T4343N
H98	*ANK2*	NM_001148:c.C5231T:p.A1744V
	MYH6	NM_002471:c.C3932T:p.T1311I
	TTN	NM_003319:c.G19060T:p.A6354S
	TTN	NM_003319:c.G58601A:p.R19534H
H99	*MYBPC3*	NM_000256:c.C1504T:p.R502W
	TTN	NM_003319:c.G18213T:p.K6071N
	TTN	NM_133378:c.G21088A:p.E7030K
H100	*TTN*	NM_003319:c.A42481G:p.S14161G
	TTN	NM_003319:c.G20528A:p.R6843H
H101	*ANK2*	NM_001148:c.C5914A:p.Q1972K
	ANK2	NM_020977:c.G5536A:p.E1846K
	TTN	NM_003319:c.C60217A:p.P20073T
	TTN	NM_003319:c.C60436T:p.R20146C
H103	*MYH7*	NM_000257:c.A2792G:p.E931G
	TTN	NM_003319:c.A51793G:p.S17265G
	TTN	NM_003319:c.C78188T:p.A26063V
	VCL	NM_003373:c.T1973C:p.V658A
H104	*DSP*	NM_004415.2:c.T5835G:p.F2544L
	RYR2	NM_001035:c.G9455T:p.R3152L
H105	*MYBPC3*	NM_000256:c.2093delC:p.A698fs
H106	*CSRP3*	NM_001127656:c.T10C:p.W4R
	PLN	NM_002667:c.T152C:p.L51P
	TTN	NM_133378:c.G18902A:p.R6301Q
H107	*TTN*	NM_003319:c.A42481G:p.S14161G
	TTN	NM_003319:c.A47700C:p.Q15900H
H108	*DSC2*	NM_004949:c.G304A:p.E102K
	TTN	NM_003319:c.G77056C:p.A25686P
	TTN	NM_133379:c.C16321T:p.R5441X
H109	*TTN*	NM_003319:c.C26729G:p.T8910S
	TTN	NM_003319:c.G78524A:p.R26175Q
H110	*MYH6*	NM_002471:c.C3427T:p.R1143W
	SCN5A	NM_000335:c.A619G:p.T207A
	TTN	NM_133378:c.G27017A:p.R9006H
H111	*DSC2*	NM_004949:c.G304A:p.E102K
	MYH7	NM_000257:c.G50A:p.R17H

	MYH7	NM_000257:c.A2783G:p.D928G
	PKP2	NM_001005242:c.G302A:p.R101H
H112	*MYBPC3*	NM_000256:c.C1483G:p.R495G
	MYBPC3	NM_000256:c.C3572T:p.S1191L
	TTN	NM_003319:c.G56086A:p.V18696I
	TTN	NM_133378:c.G25499A:p.R8500H
H113	*SCN5A*	NM_001160161:exon25:c.4275+4C>T
	SCN5A	NM_001099405:c.G5306A:p.S1769N
H114	*RBM20*	NM_001134363:c.C1364T:p.S455L
	TTN	NM_003319:c.G25901A:p.R8634H
	TTN	NM_003319:c.G32053A:p.G10685S
H116	*CSRP3*	NM_001127656:exon6:c.415-1G>T
	RBM20	NM_001134363:c.G3373A:p.E1125K
	RYR2	NM_001035:c.C2080T:p.R694X
	TTN	NM_003319:c.C39131T:p.P13044L
H117	*ANK2*	NM_001148:c.C5231A:p.A1744D
	KCNH2	NM_001204798:c.1280_1281del:p.427_427del
	RYR2	NM_001035:exon39:c.5917-1G>C
	TTN	NM_003319:c.C54277G:p.P18093A
	TTN	NM_003319:c.G3271C:p.G1091R
H118	*ANK2*	NM_020977:c.G5536A:p.E1846K
	MYBPC3	NM_000256:c.G1484A:p.R495Q
	RYR2	NM_001035:exon20:c.2203+5G>A
	TTN	NM_003319:c.A77579C:p.E25860A
	TTN	NM_133378:c.C25001T:p.T8334M
H119	*MYL3*	NM_000258:c.C460T:p.R154C
	TTN	NM_003319:c.G69409T:p.V23137L
H120	*DSP*	NM_004415.2:c.G4411A:p.D2070N
	KCNE1	NM_001127670:c.C106T:p.R36C
	MYH7	NM_000257:c.C1279A:p.L427M
	SCN5A	NM_000335:c.G1982A:p.R661Q
	TTN	NM_003319:c.G29752A:p.A9918T
H121	*MYBPC3*	NM_000256:c.3402_3404del:p.1134_1135del
	TTN	NM_003319:c.G3271C:p.G1091R
H122	*TTN*	NM_003319:c.C61199T:p.S20400F
	TTN	NM_003319:c.T4258C:p.F1420L
H123	*KCNH2*	NM_001204798:c.G1490T:p.G497V
	MYH7	NM_000257:c.G298A:p.A100T
	RBM20	NM_001134363:c.C1364T:p.S455L
	TPM1	NM_001018005:c.G466A:p.E192K
	TTN	NM_003319:c.C18404G:p.A6135G
H124	*PKP2*	NM_001005242:c.A1372G:p.I458V
	TTN	NM_003319:c.C62729T:p.A20910V
H126	*MYBPC3*	NM_000256:c.C859T:p.H287Y
	TNNT2	NM_001001432:c.C259T:p.R92W
H128	*DSP*	NM_001008844:c.1_2insA:p.M1fs
	KCNQ1	NM_000218:c.G1520A:p.R507Q
	MYH6	NM_002471:c.C70A:p.L24I
	PKP2	NM_001005242:c.G174T:p.E58D
	PKP4	NM_001005476:c.G3311A:p.R1104Q
	TMEM43	NA(NM_024334:exon3:c.163-3C>-)
	TTN	NM_003319:c.A7085G:p.Q2362R

	TTN	NM_003319:c.G73852A:p.E24618K
	TTN	NM_003319:c.T54087A:p.H18029Q
	TTN	NM_133378:c.29769_29770insAGA:p.V9923delinsVE
H131	*DSG2*	NM_001943:c.A3109G:p.N1037D
	DSP	NM_001008844:c.T6394C:p.Y2731H
	KCNE1	NM_001127670:c.C314T:p.S105L
	MYH6	NM_002471:c.G3164A:p.R1055Q
H132	*DSP*	NM_004415:c.G4105A:p.E1369K
	RBM20	NM_001134363:c.G1633A:p.V545I
	TNNI3	NM_000363:c.C592G:p.L198V
H134	*DSC2*	NM_024422:exon11:c.1264-5C>T
	MYBPC3	NM_000256:exon30:c.3330+5G>C
	MYH6	NM_002471:exon35:c.5163+1G>T
	TTN	NM_003319:c.A58496T:p.K19499I
	TTN	NM_003319:c.C74741G:p.P24914R
	TTN	NM_003319:c.G30488A:p.R10163H
	TTN	NM_133378:c.A30866G:p.E10289G
H135	*TNNT2*	NM_001001432:c.T221A:p.I79N
	TTN	NM_003319:c.A61090G:p.I20364V
	TTN	NM_003319:c.T68527C:p.Y22843H
	TTN	NM_133379:c.C15122G:p.T5041R
H136	*DSP*	NM_001008844:c.1_2insA:p.M1fs
	TTN	NM_003319:c.16639_16644del:p.5547_5548del
H139	*DSP*	NM_001008844:c.1_2insA:p.M1fs
	KCNQ1	NM_000218:c.C1201T:p.R401W
	PNN	NM_002687:c.A1646C:p.H549P
	TTN	NM_133437:exon44:c.9977-4G>A
	TTN	NM_003319:c.T39904C:p.S13302P
H140	*TNNI3*	NM_000363:c.G511A:p.A171T
	TTN	NM_003319:c.C25657T:p.R8553C
	TTN	NM_003319:c.G11659A:p.V3887M
H141	*ANK2*	NM_001148:c.C5231T:p.A1744V
	MYH6	NM_002471:c.C3932T:p.T1311I
	TTN	NM_003319:c.G19060T:p.A6354S
	TTN	NM_003319:c.G58601A:p.R19534H
H142	*RBM20*	NM_001134363:c.G3023A:p.R1008Q
	TTN	NM_003319:c.47401_47403del:p.15801_15801del
H143	*ANK2*	NM_020977:c.C5461T:p.R1821W
	TNNT2	NM_001001432:c.C814T:p.R278C
	TTN	NM_133378:c.29769_29770insAGA:p.V9923delinsVE
H144	*DSP*	NM_001008844:c.G1483A:p.V495M
	TTN	NM_003319:c.A42481G:p.S14161G
	TTN	NM_003319:c.G20528A:p.R6843H
	TTN	NM_003319:c.G55615A:p.G18539S
	TTN	NM_133378:c.G16579C:p.E5527Q
	TTN	NM_133379:c.A13936G:p.K4646E
H145	*MYBPC3*	NM_000256:c.G2459A:p.R820Q
	TTN	NM_003319:c.G18785A:p.R6262H
	TTN	NM_133378:c.T32555C:p.V10852A
H146	*ANK2*	NM_001148:c.G7132A:p.E2378K
	MYBPC3	NM_000256:c.G977A:p.R326Q
H147	*MYBPC3*	NM_000256:c.C484T:p.Q162X

	TTN	NM_003319:c.G23990A:p.S7997N
H150	*JUP*	NM_002230:c.A1324T:p.I442F
	MYBPC3	NA(NM_000256:exon17:c.1624+5G>T)
	TTN	NM_003319:c.A19733G:p.H6578R
	TTN	NM_003319:c.C49544A:p.T16515K
	TTN	NM_003319:c.C57676T:p.R19226C
	TTN	NM_003319:c.T3467C:p.V1156A
H151	*TTN*	NM_003319:c.C41222T:p.T13741I
	TTN	NM_133378:c.C18047A:p.S6016Y
	TTN	NM_133379:c.C16001T:p.P5334L
H152	*ANK2*	NM_001148:c.G8240A:p.R2747H
	DSG2	NM_001943:c.A545G:p.N182S
	MYH6	NM_002471:c.G2071A:p.V691I
H153	*TTN*	NM_003319:c.G4394A:p.G1465D
	TTN	NM_003319:c.G65810T:p.S21937I
H154	*MYBPC3*	NM_000256:c.1019_1026del:p.340_342del
	TTN	NM_133378:c.A24205G:p.T8069A
H155	*CSRP3*	NM_001127656:c.T10C:p.W4R
	DSP	NM_004415:c.A5120G:p.Q1707R
	TTN	NM_003319:c.G43636A:p.A14546T
H156	*MYH6*	NM_002471:c.G5594A:p.R1865Q
	TNNT2	NM_000364:exon17:c.843-3C>A
H157	*PKP4*	NM_001005476:c.A329G:p.Q110R
	TTN	NM_133437:exon156:c.43097-5C>G
	TTN	NM_003319:c.A42481G:p.S14161G
	TTN	NM_003319:c.G20528A:p.R6843H
	TTN	NM_133379:c.A13936G:p.K4646E
H159	*DSC2*	NM_024422:c.2685_2686insAG:p.A895fs
	DSP	NM_004415.2:p.K2450N
H160	*MYBPC3*	NM_000256:c.G1484A:p.R495Q
	MYH6	NA(NM_002471:exon23:c.2928+5G>A)
	PLN	NM_002667:c.C73T:p.R25C
H161	*DSP*	NM_004415.2:c.G4411A:p.D2070N
	MYH7	NM_000257:c.C1207T:p.R403W
H163	*DSC2*	NM_024422:c.2685_2686insAG:p.A895fs
	DSP	NM_004415.2:c.G4411A:p.D2070N
	MYBPC3	NM_000256:c.174_184del:p.58_62del
	VCL	NM_003373:c.A1555C:p.I519L
H164	*DSG2*	NM_001943:c.T473G:p.V158G
	MYH7	NM_000257:c.G4066A:p.E1356K
H165	*MYBPC3*	NM_000256:c.2604delT:p.G868fs
	TTN	NM_003319:c.C61199T:p.S20400F
	TTN	NM_003319:c.T4258C:p.F1420L
H167	*ANK2*	NM_020977:c.T4646A:p.V1549D
	DSC2	NM_004949:c.C266T:p.S89L
	DSP	NM_001008844:c.1_2insA:p.M1fs
	MYH7	NM_000257:c.G2609A:p.R870H
	TTN	NM_003319:c.C76441T:p.R25481C
	TTN	NM_003319:c.G20053A:p.V6685I
H169	*MYL3*	NM_000258:c.C476T:p.T159M
	RBM20	NM_001134363:c.G3373A:p.E1125K
	TTN	NM_003319:c.A25349G:p.H8450R

	TTN	NM_003319:c.G36598A:p.D12200N
H170	*MYBPC3*	NM_000256:c.G1624C:p.E542Q
	TTN	NM_003319:c.C21100T:p.R7034W
	TTN	NM_003319:c.C45796T:p.R15266C
H171	*TTN*	NM_003319:c.G20120A:p.R6707Q
	TTN	NM_133378:c.C15044G:p.T5015S
H172	*KCNH2*	NM_172057:c.G2144A:p.R715Q
	RYR2	NM_001035:c.C3037T:p.R1013W
H173	*ANK2*	NM_020977:c.G5536A:p.E1846K
	DSP	NM_004415.2:c.G4411A:p.D2070N
	KCNQ1	NM_000218:c.C458T:p.T153M
	MYH6	NM_002471:c.C4704A:p.N1568K
H174	*MYH7*	NM_000257:c.G1063A:p.A355T
	TNNT2	NM_001001432:c.A794T:p.N271I
	TTN	NM_133378:c.C28892T:p.P9631L
H175	*MYL2*	NM_000432:c.G64A:p.E22K
	TTN	NM_003319:c.T62789C:p.I20930T
	TTN	NM_133378:c.29784_29785insAGG:p.E9928delinsEG
H176	*RYR2*	NA(NM_001035:exon72:c.10324-4A>G)
	RYR2	NM_001035:c.C10681G:p.L3561V
H177	*DSC2*	NM_024422:c.2685_2686insAG:p.A895fs
	PKP2	NM_001005242:c.G775T:p.E259X
	TTN	NM_003319:c.G23419C:p.A7807P
H178	*MYH6*	NA(NM_002471:exon23:c.2928+5G>A)
	TTN	NM_003319:c.G62231A:p.R20744Q
H179	*CASQ2*	NM_001232:c.1183_1185del:p.395_395del
	MYBPC3	NM_000256:c.G655C:p.V219L
	RBM20	NM_001134363:c.G1766A:p.R589Q
	TTN	NM_003319:c.C49544A:p.T16515K
	TTN	NM_003319:c.G24587A:p.R8196Q
	TTN	NM_003319:c.T3467C:p.V1156A
H180	*MYH7*	NM_000257:c.G2221C:p.G741R
	PKP4	NM_001005476:c.A2168G:p.Y723C
H181	*TPM1*	NM_000366:exon4:c.375-5T>C
	TTN	NM_003319:c.A12880C:p.N4294H
	TTN	NM_003319:c.C33626T:p.P11209L
	TTN	NM_133378:c.C19500G:p.N6500K
H182	*MYBPC3*	NM_000256:c.2373_2374insG:p.Q791fs
	RYR2	NA(NM_001035:exon72:c.10324-4A>G)
	TTN	NM_003319:c.C71099G:p.A23700G
	TTN	NM_003319:c.G31202C:p.G10401A
	TTN	NM_003319:c.G34727A:p.R11576Q
	TTN	NM_133379:c.G16160A:p.C5387Y
H183	*RBM20*	NM_001134363:c.G3373A:p.E1125K
	TTN	NM_003319:c.G77056C:p.A25686P
H184	*ANK2*	NM_001148:c.A4373G:p.E1458G
	MYBPC3	NM_000256:exon26:c.2603-2A>G
	TTN	NM_133378:c.29769_29770insAGA:p.V9923delinsVE
	TTN	NM_133378:c.29780_29781insAAT:p.E9927delinsEX
H185	*CSRP3*	NM_001127656:c.T10C:p.W4R
	TTN	NM_003319:c.A45629T:p.K15210I
H186	*CAV3*	NM_001234:c.C216G:p.C72W

	DSP	NM_001008844:c.1_2insA:p.M1fs
	MYBPC3	NA(NM_000256:exon17:c.1624+4A>T)
	MYH6	NM_002471:c.C5140T:p.R1714W
	SCN5A	NM_001099405:c.T5956C:p.F2004L
H189	*MYH7*	NM_000257:c.G2348A:p.R783H
	TTN	NM_133378:c.A13316G:p.Y4439C
	TTN	NM_133379:c.C13586G:p.A4529G
H190	*DSC2*	NM_004949:c.C1787T:p.A596V
	MYH7	NM_000257:c.G1816A:p.V606M
H191	*TTN*	NM_003319:c.C41935T:p.P13979S
	TTN	NM_003319:c.C46139T:p.T15380I
H192	*MYH7*	NM_000257:c.T1870A:p.Y624N
	TTN	NM_003319:c.G72706A:p.E24236K
	TTN	NM_003319:c.T76493C:p.V25498A
	TTN	NM_133378:c.C13492T:p.L4498F
H195	*TTN*	NM_003319:c.A42481G:p.S14161G
	TTN	NM_003319:c.C2080A:p.R694S
	TTN	NM_003319:c.G20528A:p.R6843H
	TTN	NM_003319:c.T62794A:p.L20932M
	TTN	NM_133378:c.T20343G:p.I6781M
	TTN	NM_133379:c.A13936G:p.K4646E
	VCL	NM_003373:c.A1157G:p.K386R
H196	*DSC2*	NM_004949:c.G857T:p.G299+G31V
	TTN	NM_003319:c.G34874A:p.R11625Q
H197	*MYBPC3*	NM_000256:exon13:c.1090+1G>T
	TTN	NM_003319:c.A45736G:p.T15246A
H199	*ANK2*	NM_001148:c.G5032A:p.E1678K
	DSG2	NM_001943:c.C2750T:p.A917V
	TTN	NM_003319:c.A7085G:p.Q2362R
H200	*ANK2*	NM_001148:c.A7183C:p.T2395P
	SCN5A	NM_000335:c.G1655C:p.G552A
	TPM1	NM_001018005:c.A653G:p.D254G
H202	*DSP*	NM_001008844:c.1_2insA:p.M1fs
	MYH6	NM_002471:c.A1763C:p.D588A
H203	*TTN*	NM_003319:c.74120_74121insAGCCTTCAG:p.K24707delinsKPSE
	TTN	NM_003319:c.74131_74132insCCTTCAGAT:p.P24711delinsPSDP
	TTN	NM_003319:c.C26953T:p.R8985C
H205	*DSP*	NM_001008844:c.1_2insA:p.M1fs
	MYH6	NA(NM_002471:exon23:c.2928+5G>A)
	PLN	NM_002667:c.T53C:p.I18T
	TTN	NM_003319:c.A45629T:p.K15210I
	TTN	NM_003319:c.A47900G:p.Y15967C
H206	*MYBPC3*	NM_000256:c.2605_2606insC:p.P869fs
	RBM20	NM_001134363:c.C1364T:p.S455L
	TTN	NM_003319:c.C35416G:p.L11806V
H207	*RBM20*	NM_001134363:c.C1364T:p.S455L
	TTN	NM_003319:c.C35416G:p.L11806V
H208	*SCN5A*	NM_001099405:c.G5401A:p.D1819N
	TTN	NM_133437:exon179:c.70574-3T>C
	TTN	NM_003319:c.A44954G:p.E14985G
	TTN	NM_133378:c.G30865C:p.E10289Q

H209	*ANK2*	NM_001148:c.A7117G:p.T2373A
	MYH6	NM_002471:c.C2425T:p.R809C
	RYR2	NM_001035:c.C3151T:p.R1051C
	RYR2	NM_001035:c.G6450A:p.M2150I
	TNNI3	NM_000363:c.G485A:p.R162Q
	TTN	NM_003319:c.A16081G:p.K5361E
	TTN	NM_003319:c.G23222A:p.G7741E
	TTN	NM_133378:c.G31999A:p.E10667K