

Supplemental Data

Contribution of Global Rare Copy-Number Variants to the Risk of Sporadic Congenital Heart Disease

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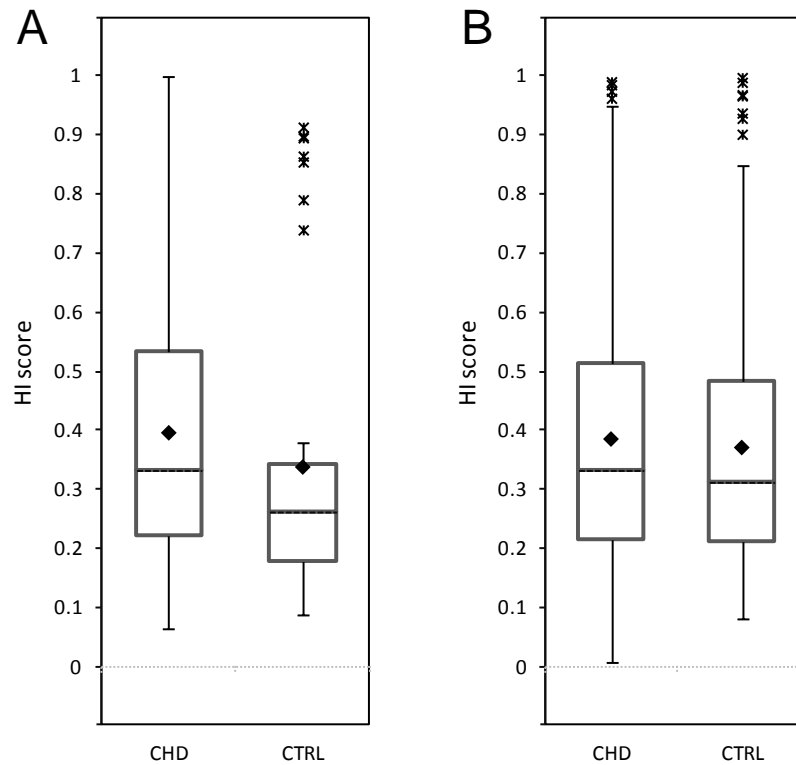


Figure S1. Haploinsufficiency Score Distribution in Deletions and Duplications

Box plots showing the distribution of haploinsufficiency (HI) scores of the genes spanned by all deletions (A) and duplications (B) detected in 2256 CHD and 841 unaffected controls. The means are indicated as black diamonds. Deletions in CHD cases are more likely to contain genes that were predicted or known to be haploinsufficient (high HI scores) than controls ($P = 0.02$), as shown in (A). The outliers (red asterisks) refer to six genes (*PRKAB2*, *BCL9*, *PMP22*, *TPK1*, *LINGO2*, *PTPRD*, and *TEK*) with high HI scores that were spanned by rare heterozygous deletions in controls. However, their occurrences are known to be extremely rare (<0.2% frequency in our controls). In contrast, there is no significant difference ($P = 0.44$) in the distribution of HI scores between the genes that were intersected by duplications in cases and controls, as shown in (B).

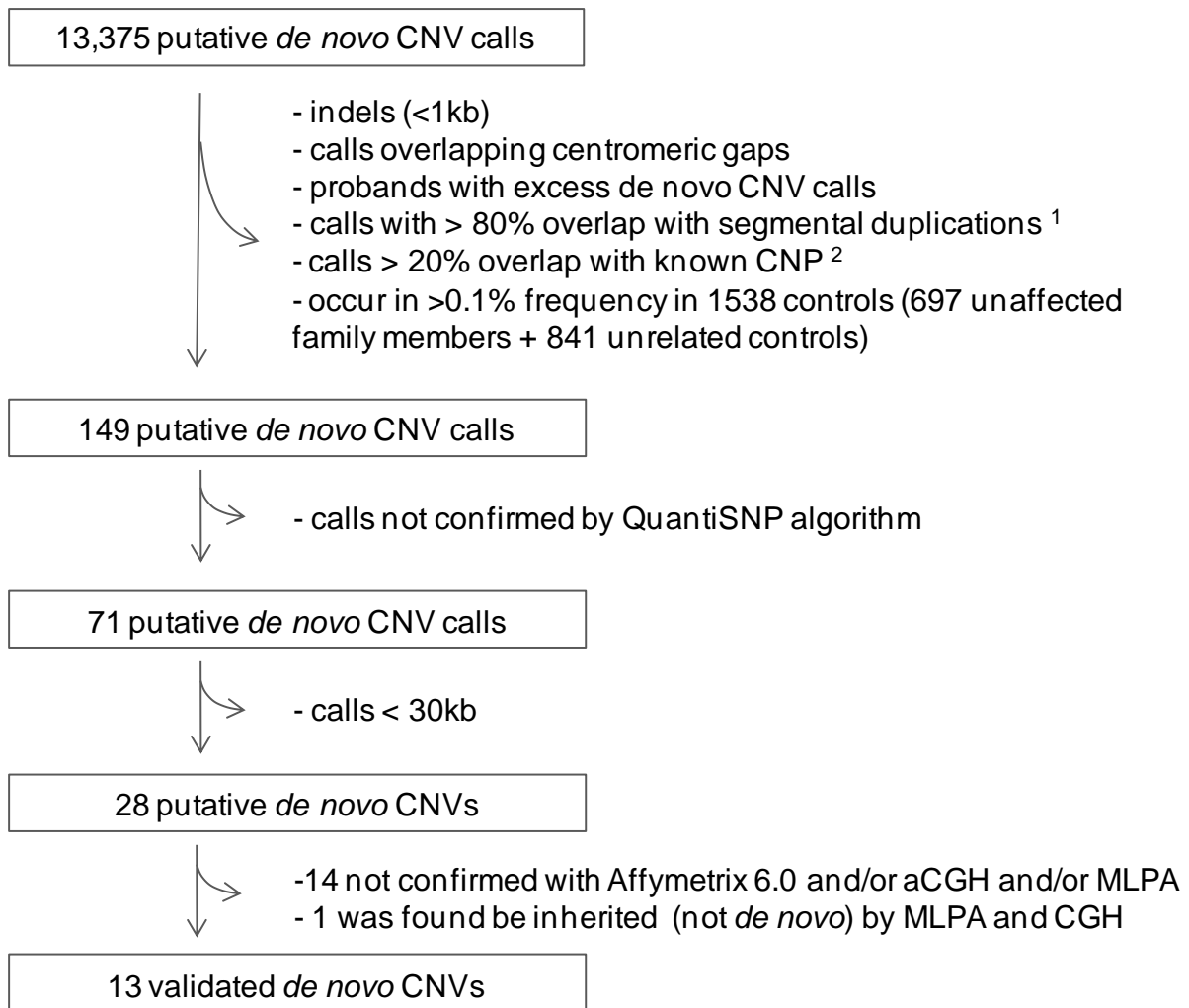


Figure S2. Identification of Rare De Novo CNVs in 283 TOF Trios

¹Downloaded from UCSC Genome Browser

²Craddock, N., Hurles, M.E., Cardin, N., Pearson, R.D., Plagnol, V., Robson, S., Vukcevic, D., Barnes, C., Conrad, D.F., Giannoulatou, E., et al. (2010). Genome-wide association study of CNVs in 16,000 cases of eight common diseases and 3,000 shared controls. Nature 464, 713-720.

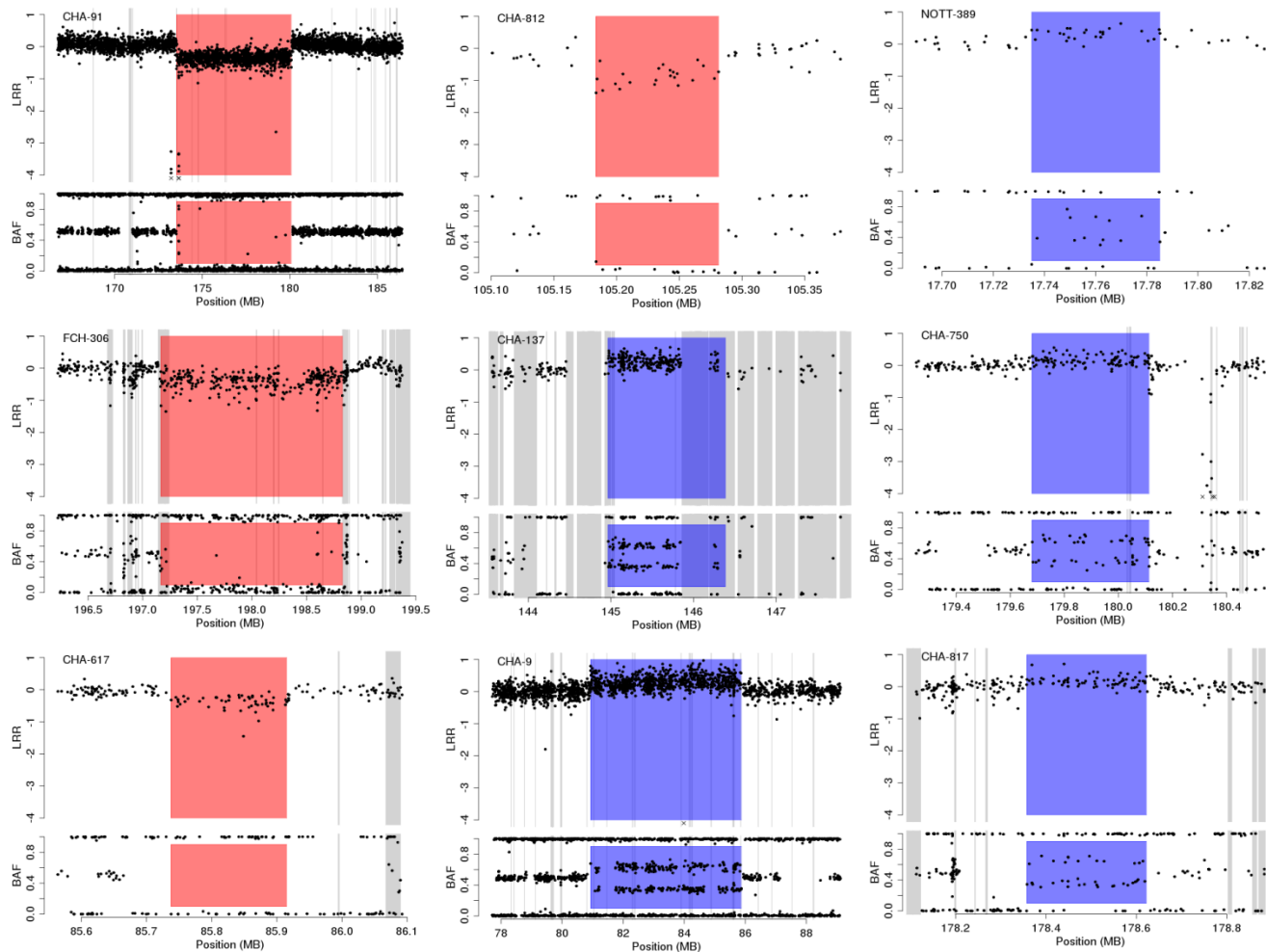


Figure S3. Raw Intensity Data of Paternally Derived Rare De Novo CNVs in 283 Trios

Rare de novo deletions (red shade) and duplications (blue shade) were shown in the log R ratio (LRR) and B-allele frequency (BAF) plots. Grey shaded areas indicated the segmental duplication blocks in the region. De novo deletion of FCH-306 and de novo duplication of CHA-137 were generated via their flanking segmental duplications (SD), indicated by the location of the breakpoints that coincide with SD. There is a pair of flanking SD with high degree of homology (>95%) in the same orientation in both of these cases, thus fulfilling the requirement for the predominant SD-mediated rearrangement event. The rest of the de novo CNVs were therefore generated by non SD-mediated mechanisms.

Table S1. Phenotype Distribution in 2,256 CHD Patients

CHD Type	n
Aortic arch abnormalities	161
Aortic valve abnormalities	127
Atrial septal defect	293
Atrioventricular septal defect	60
Common arterial trunk	22
Congenitally corrected transposition of the great arteries	36
Coronary artery anomaly	2
Double inlet left ventricle or right ventricle	23
Double outlet left ventricle	1
Double outlet right ventricle	16
Ebstein malformation	14
Heterotaxy	7
Hypoplastic left heart syndrome	14
Left isomerism	13
Mitral valve abnormalities	23
Other	53
Partial anomalous pulmonary venous drainage	12
Patent ductus arteriosus	63
Pulmonary atresia with intact ventricular septum	18
Pulmonary atresia with ventricular septal defect	17
Pulmonary stenosis	76
Right isomerism	11
Situs inversus/dextrocardia	5
Tetralogy of Fallot	808
Total anomalous pulmonary venous drainage	7
Transposition of the great arteries	165
Tricuspid valve abnormalities	32
Univentricular heart	14
Ventricular septal defect	163
Total	2256

Table S2. Regions Excluded from Analyses

CHR	START	END	COMMENT
1	953726	1498897	artefacts in GC-rich region
7	913761	1122949	artefacts in GC-rich region
7	27087213	27254061	artefacts in GC-rich region
8	144621302	144772135	artefacts in GC-rich region
8	145595447	145728221	artefacts in GC-rich region
9	138277725	138650091	artefacts in GC-rich region
10	134885864	135054789	artefacts in GC-rich region
12	131103204	131701256	artefacts in GC-rich region
16	956057	1132214	artefacts in GC-rich region
17	76704184	77138316	artefacts in GC-rich region
19	748078	943903	artefacts in GC-rich region
21	45644509	45788806	artefacts in GC-rich region
2	89078673	89855977	low validation rate due to SD
14	105079689	105945405	low validation rate due to SD

CHR = chromosome; SD = segmental duplications

Table S3. Recurrent Genes Spanned by Rare Deletions

Cytoband	RefSeq Gene	CHD (n = 2,256)	CHD Phenotype	Controls (n = 841)	Cooper et al., 2011 ¹ Cardio (n = 575)	Controls (n = 8,329)
1p31.1	<i>PTGER3</i>	1	CAT	0	2	1
1p31.1	<i>USP33</i>	1	CAT	0	1	0
1p31.1	<i>FAM73A</i>	1	CAT	0	1	0
1p31.1	<i>NEXN</i>	1	CAT	0	1	0
1q21.1	<i>PRKAB2</i>	3	TGA, MV, ASD	1	3	2
1q21.1	<i>PDIA3P</i>	3	TGA, MV, ASD	1	3	2
1q21.1	<i>FMO5</i>	3	TGA, MV, ASD	1	3	2
1q21.1	<i>CHD1L</i>	3	TGA, MV, ASD	1	3	2
1q21.1	<i>BCL9</i>	3	TGA, MV, ASD	1	3	2
1q21.1	<i>ACP6</i>	3	TGA, MV, ASD	1	3	2
1q21.1	<i>GJA5</i>	3	TGA, MV, ASD	1	3	2
1q21.1	<i>GJA8</i>	3	TGA, MV, ASD	1	3	2
1q44	<i>OR14A16</i>	1	TOF	0	1	4
1q44	<i>OR11L1</i>	1	TOF	0	1	2
1q44	<i>TRIM58</i>	1	TOF	0	1	2
1q44	<i>OR2W3</i>	1	TOF	0	1	3
2p22.1	<i>SLC8A1</i>	1	TOF	0	1	0
2q13	<i>MIR4267</i>	1	CoA	0	2	2
2q13	<i>BUB1</i>	1	TOF	0	2	2
2q13	<i>ACOXL</i>	2	TOF, ASD	0	2	1
2q13	<i>BCL2L11</i>	2	TOF, ASD	0	2	1
2q13	<i>MERTK</i>	1	TOF	0	2	3
2q13	<i>TMEM87B</i>	1	TOF	0	2	1
2q13	<i>FBLN7</i>	1	TOF	0	2	2
2q13	<i>ZC3H8</i>	1	TOF	0	2	1
3p22.1	<i>ULK4</i>	3	TOF, ASD, VSD	0	0	7
3p14.2	<i>FHIT</i>	3	TOF, VSD(2)	0	0	8
3q25	<i>MME</i>	2	TOF, VSD	0	0	0
4q34.1	<i>GALNT7</i>	1	TOF	0	1	0
4q34.1	<i>HMGB2</i>	1	TOF	0	1	0
4q34.1	<i>SAP30</i>	1	TOF	0	1	0
4q34.1	<i>SCRG1</i>	1	TOF	0	1	0
4q34.1	<i>HAND2</i>	1	TOF	0	1	0
4q34.1	<i>NBLA00301</i>	1	TOF	0	1	0
4q34.1	<i>FBXO8</i>	1	TOF	0	1	0
4q35.2	<i>LOC401164</i>	2	TOF(2)	0	0	11
5p15.33	<i>AHRR</i>	1	AVSD	0	1	1
5p15.33	<i>C5orf55</i>	1	AVSD	0	1	0
5p15.33	<i>EXOC3</i>	1	AVSD	0	1	0
5p15.33	<i>SLC9A3</i>	1	AVSD	0	1	13
5p14.3	<i>CDH18</i>	1	TOF	0	1	2
5q31.3	<i>PCDHB2</i>	2	ASD, VSD	0	0	1
5q31.3	<i>PCDHB3</i>	2	ASD, VSD	0	0	2
5q31.3	<i>PCDHB4</i>	2	ASD, VSD	0	0	1
5q31.3	<i>PCDHB5</i>	2	ASD, VSD	0	0	1
5q31.3	<i>PCDHB6</i>	2	ASD, VSD	0	0	2
5q31.3	<i>PCDHB17</i>	2	ASD, VSD	0	0	1
5q31.3	<i>PCDHB16</i>	2	ASD, VSD	0	0	2
5q31.3	<i>PCDHB9</i>	2	ASD, VSD	0	0	2
5q31.3	<i>PCDHB10</i>	2	ASD, VSD	0	0	2
7p22.2	<i>SDK1</i>	1	TOF	0	1	9
8p23.3	<i>CLN8</i>	1	AVSD	0	1	4
8p23.3	<i>MIR596</i>	1	AVSD	0	1	2

8p23.3	<i>ARHGEF10</i>	1	AVSD	0	1	3
8p23.3	<i>KBTBD11</i>	1	AVSD	0	1	9
8p23.3	<i>MYOM2</i>	1	AVSD	0	1	14
8p23.2	<i>CSMD1</i>	1	AVSD	0	2	6
8p23.1	<i>MCPH1</i>	2	TOF, AVSD	0	1	0
8p23.1	<i>ANGPT2</i>	1	TOF, AVSD	0	1	0
8p23.1	<i>AGPAT5</i>	2	TOF, AVSD	0	1	0
8p23.1	<i>XKR5</i>	2	TOF, AVSD	0	1	0
8p23.1	<i>DEFB1</i>	2	TOF, AVSD	0	1	1
8p23.1	<i>DEFA6</i>	2	TOF, AVSD	0	1	0
8p23.1	<i>DEFA4</i>	2	TOF, AVSD	0	1	6
8p23.1	<i>DEFA10P</i>	2	TOF, AVSD	0	1	1
8p23.1	<i>DEFA1B</i>	1	AVSD	0	1	1
8p23.1	<i>DEFA3</i>	1	AVSD	0	1	1
8p23.1	<i>DEFA1</i>	1	AVSD	0	1	1
8p23.1	<i>DEFA5</i>	1	AVSD	0	1	0
8p23.1	<i>SGK223</i>	3	TOF, AVSD, BAV	0	2	3
8p23.1	<i>CLDN23</i>	3	TOF, AVSD, BAV	0	3	0
8p23.1	<i>MFHAS1</i>	3	TOF, AVSD, BAV	0	3	9
8p23.1	<i>ERI1</i>	3	TOF, AVSD, BAV	0	2	1
8p23.1	<i>TNKS</i>	3	TOF, AVSD, BAV	0	3	0
8p23.1	<i>MIR597</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>LOC157627</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>MIR124-1</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>MSRA</i>	2	TOF, AVSD	0	3	4
8p23.1	<i>PRSS55</i>	2	TOF, AVSD	0	3	1
8p23.1	<i>RP1L1</i>	2	TOF, AVSD	0	3	1
8p23.1	<i>MIR4286</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>C8orf74</i>	2	TOF, AVSD	0	3	2
8p23.1	<i>SOX7</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>PINX1</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>MIR1322</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>XKR6</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>MIR598</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>MTMR9</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>TDH</i>	2	TOF, AVSD	0	3	0
8p23.1	<i>C8orf12</i>	3	TOF, AVSD, VSD	0	3	1
8p23.1	<i>FAM167A</i>	3	TOF, AVSD, VSD	0	3	1
8p23.1	<i>BLK</i>	3	TOF, AVSD, VSD	0	3	0
8p23.1	<i>GATA4</i>	4	TOF(2), AVSD, VSD	0	3	0
8p23.1	<i>NEIL2</i>	4	TOF(2), AVSD, VSD	0	3	0
8p23.1	<i>FDFT1</i>	4	TOF(2), AVSD, VSD	0	3	0
8p23.1	<i>CTSB</i>	4	TOF(2), AVSD, VSD	0	3	0
8p23.1	<i>DEFB136</i>	2	TOF, AVSD	0	1	0
8p23.1	<i>DEFB135</i>	2	TOF, AVSD	0	1	0
8p23.1	<i>DEFB134</i>	2	TOF, AVSD	0	1	0
10q22.3	<i>SFTPD</i>	1	Other	0	1	2
10q22.3	<i>LOC219347</i>	1	Other	0	1	1
10q22.3	<i>ANXA11</i>	1	Other	0	1	1
10q23.1	<i>MAT1A</i>	1	Other	0	1	0
10q23.1	<i>DYDC1</i>	1	Other	0	1	0
10q23.1	<i>DYDC2</i>	1	Other	0	1	0
10q23.1	<i>C10orf58</i>	1	Other	0	1	0
10q23.1	<i>TSPAN14</i>	1	Other	0	1	3

10q23.1	<i>SH2D4B</i>	1	Other	0	1	0
10q23.1	<i>NRG3</i>	2	ASD, Other	0	1	6
10q23.1	<i>GHITM</i>	2	ASD, Other	0	0	0
10q23.1	<i>C10orf99</i>	2	ASD, Other	0	0	0
10q23.1	<i>CDHR1</i>	2	ASD, Other	0	0	1
10q23.1	<i>LRIT2</i>	2	ASD, Other	0	0	0
10q23.1	<i>LRIT1</i>	2	ASD, Other	0	0	0
10q23.1	<i>RGR</i>	2	ASD, Other	0	0	0
10q26.3	<i>C10orf93</i>	2	AVSD, TGA	0	1	1
10q26.3	<i>GPR123</i>	1	AVSD	0	1	4
10q26.3	<i>CYP2E1</i>	2	AVSD, ASD	0	0	6
10q26.3	<i>SYCE1</i>	2	AVSD, ASD	0	0	12
11p15.4	<i>OR52R1</i>	2	TOF, VSD	0	0	14
11p15.4	<i>OR51F2</i>	2	TOF, VSD	0	0	14
11p15.4	<i>OR51S1</i>	2	TOF, VSD	0	0	14
11p15.4	<i>OR51T1</i>	2	TOF, VSD	0	0	11
11q13.1	<i>MACROD1</i>	2	TGA, AVSD	0	0	2
11q13.1	<i>FLRT1</i>	2	TGA, AVSD	0	0	0
11q13.1	<i>STIP1</i>	2	TGA, AVSD	0	1	4
11q13.1	<i>FERMT3</i>	2	TGA, AVSD	0	1	4
11q13.1	<i>TRPT1</i>	2	TGA, AVSD	0	1	4
11q13.1	<i>NUDT22</i>	2	TGA, AVSD	0	1	4
11q13.1	<i>DNAJC4</i>	2	TGA, AVSD	0	1	9
11q13.1	<i>VEGFB</i>	2	TGA, AVSD	0	1	10
11q13.1	<i>FKBP2</i>	2	TGA, AVSD	0	1	4
11q13.1	<i>PPP1R14B</i>	2	TGA, AVSD	0	0	4
11q13.1	<i>PLCB3</i>	2	TGA, AVSD	0	0	4
11q13.1	<i>BAD</i>	2	TGA, AVSD	0	0	3
11q13.1	<i>GPR137</i>	2	TGA, AVSD	0	0	2
11q13.1	<i>KCNK4</i>	2	TGA, AVSD	0	0	2
11q13.1	<i>C11orf20</i>	2	TGA, AVSD	0	0	2
11q13.1	<i>TRMT112</i>	2	TGA, AVSD	0	0	2
11q13.1	<i>PRDX5</i>	2	TGA, AVSD	0	0	2
11q13.1	<i>CCDC88B</i>	2	TGA, AVSD	0	0	2
13q34	<i>RASA3</i>	1	TGA	0	1	11
15q11.2	<i>TUBGCP5</i>	12	CoA(3), VSD(2), ASD(2), L-sided (3), TOF, TAPVD	0	6	22
15q11.2	<i>CYFIP1</i>	12	CoA(3), VSD(2), ASD(2), L-sided (3), TOF, TAPVD	0	6	21
15q11.2	<i>NIPA2</i>	12	CoA(3), VSD(2), ASD(2), L-sided (3), TOF, TAPVD	0	6	19
15q11.2	<i>NIPA1</i>	12	CoA(3), VSD(2), ASD(2), L-sided (3), TOF, TAPVD	0	6	19
15q13.3	<i>FAN1</i>	2	IL, PDA	0	2	0
15q13.3	<i>MTMR10</i>	2	IL, PDA	0	2	0
15q13.3	<i>TRPM1</i>	2	IL, PDA	0	2	7
15q13.3	<i>MIR211</i>	2	IL, PDA	0	2	7
15q13.3	<i>CHRNA7</i>	3	IL, PDA, PS	0	2	4
16p12.1	<i>UQCRC2</i>	1	TOF	0	1	3
16p12.1	<i>PDZD9</i>	1	TOF	0	2	3
16p12.1	<i>C16orf52</i>	1	TOF	0	2	3

16p12.1	VWA3A	1	TOF	0	2	3
16p12.1	EEF2K	1	TOF	0	2	3
16p12.1	POLR3E	1	TOF	0	2	3
16p12.1	CDR2	1	TOF	0	2	3
16q23.1	WWOX	2	CoA(2)	0	0	6
16q24.3	FANCA	2	PS, BAV	0	0	2
16q24.3	SPIRE2	3	PS, BAV, ASD	0	0	9
16q24.3	TCF25	3	PS, BAV, ASD	0	0	3
16q24.3	MC1R	2	PS, ASD	0	0	1
16q24.3	TUBB3	2	PS, ASD	0	0	1
16q24.3	DEF8	2	PS, ASD	0	0	3
18q23	ATP9B	2	TGA, CCTGA	0	1	2
18q23	NFATC1	2	TGA, CCTGA	0	1	9
22q11.21	DGCR10	1	ASD	0	16	2
22q11.21	ZNF74	1	VSD	0	10	0
22q11.21	SCARF2	1	VSD	0	10	0
22q11.21	KLHL22	1	VSD	0	10	0
22q11.21	MED15	1	VSD	0	10	0
22q11.21	PI4KA	1	VSD	0	10	1
22q11.21	SERPIND1	1	VSD	0	10	1
22q11.21	SNAP29	1	VSD	0	10	1
22q11.21	CRKL	1	VSD	0	10	1
22q11.21	AIFM3	1	VSD	0	10	1
22q11.21	LZTR1	1	VSD	0	10	1
22q11.21	THAP7	1	VSD	0	10	1
22q11.21	FLJ39582	1	VSD	0	10	1
22q11.21	P2RX6	1	VSD	0	10	1
22q11.21	SLC7A4	1	VSD	0	10	1
22q11.22- q11.23	RTDR1	1	CAT	0	2	1
22q11.22	GNAZ	1	CAT	0	2	0
22q13.31	LOC100271722	1	AS	0	1	0
22q13.31	C22orf26	1	AS	0	1	0
22q13.31	LOC150381	1	AS	0	1	0
22q13.31	MIRLET7A3	1	AS	0	1	0
22q13.31	MIRLET7B	1	AS	0	1	0

AS = Aortic valve stenosis, ASD = Atrial septal defect, AVSD = Atrioventricular septal defect, BAV = Bicuspid aortic valve, CAT = Truncus arteriosus, CCTGA = Congenitally corrected transposition of the great arteries, CoA = Coarctation of the aorta, IL = Left isomerism, L-sided = Complex left-sided malformation, MV = Mitral valve abnormalities, PDA = Patent ductus arteriosus, PS = Pulmonary valve stenosis, TAPVD = Total anomalous pulmonary venous drainage, TGA = Transposition of the great arteries, VSD = Ventricular septal defect.

Table S4. Recurrent Genes Spanned by Rare Duplications

Cytoband	RefSeq Gene	CHD (n = 2,256)	CHD Phenotype	Controls (n = 841)	Cooper et al., 2011 ¹ Cardio (n = 575)	Controls (n = 8,329)
1p36.32	<i>ACTRT2</i>	1	TOF	0	1	0
1p36.32	<i>FLJ42875</i>	1	TOF	0	1	0
1p36.32	<i>PRDM16</i>	1	TOF	0	1	0
1p36.32	<i>MIR4251</i>	1	TOF	0	1	0
1q21.1	<i>HFE2</i>	2	TOF	0	2	6
1q21.1	<i>TXNIP</i>	2	TOF	0	2	6
1q21.1	<i>POLR3GL</i>	2	TOF	0	2	6
1q21.1	<i>ANKRD34A</i>	2	TOF	0	2	6
1q21.1	<i>LIX1L</i>	2	TOF	0	2	6
1q21.1	<i>GNRHR2</i>	2	TOF	0	2	6
1q21.1	<i>PEX11B</i>	2	TOF	0	2	6
1q21.1	<i>ITGA10</i>	2	TOF	0	2	6
1q21.1	<i>ANKRD35</i>	2	TOF	0	2	6
1q21.1	<i>PIAS3</i>	2	TOF	0	2	6
1q21.1	<i>NUDT17</i>	2	TOF	0	2	6
1q21.1	<i>POLR3C</i>	2	TOF	0	2	6
1q21.1	<i>RNF115</i>	2	TOF	0	3	15
1q21.1	<i>CD160</i>	2	TOF	0	2	14
1q21.1	<i>PDZK1</i>	2	TOF	0	2	14
1q21.1	<i>PRKAB2</i>	8	TOF	0	1	0
1q21.1	<i>PDIA3P</i>	8	TOF	0	1	0
1q21.1	<i>FMO5</i>	8	TOF	0	1	2
1q21.1	<i>CHD1L</i>	8	TOF	0	1	2
1q21.1	<i>BCL9</i>	8	TOF	0	1	1
1q21.1	<i>ACP6</i>	10	TOF	0	1	1
1q21.1	<i>GJA5</i>	12	TOF(11), PA	0	1	3
1q21.1	<i>GJA8</i>	10	TOF	0	1	2
2p21	<i>UNQ6975</i>	1	DORV	0	1	1
2p21	<i>SRBD1</i>	1	DORV	0	1	2
2p21	<i>PRKCE</i>	1	DORV	0	1	1
2p16.3	<i>NRXN1</i>	1	TGA	0	1	0
3p14.2	<i>FHIT</i>	2	HLHS, ASD	0	0	3
3q29	<i>TFRC</i>	1	VSD	0	1	1
3q29	<i>LOC401109</i>	1	VSD	0	1	2
3q29	<i>ZDHHC19</i>	1	VSD	0	1	1
3q29	<i>OSTalpha</i>	1	VSD	0	1	1
3q29	<i>PCYT1A</i>	1	VSD	0	1	1
3q29	<i>TCTEX1D2</i>	1	VSD	0	1	1
4q22.1	<i>FAM190A</i>	2	ASD, PDA	0	1	4
4q22.1-q22.2	<i>GRID2</i>	1	ASD	0	1	2
6q12	<i>EYS</i>	1	CoA	0	1	5
7q36.2	<i>DPP6</i>	1	TOF	0	1	8
7q36.2	<i>LOC100132707</i>	1	TOF	0	1	0
7q36.2	<i>PAXIP1</i>	1	TOF	0	1	0
7q36.2	<i>LOC202781</i>	1	TOF	0	1	0
7q36.2	<i>HTR5A</i>	1	TOF	0	1	0
8p23.2	<i>CSMD1</i>	1	ASD	0	1	6
8p23.1	<i>ERI1</i>	1	TOF	0	1	0
8p23.1	<i>PPP1R3B</i>	1	TOF	0	1	0
8p23.1	<i>TNKS</i>	1	TOF	0	1	0
8p23.1	<i>MIR597</i>	1	TOF	0	1	0
8p23.1	<i>MSRA</i>	1	BAV	0	1	1
8p23.1	<i>PRSS55</i>	1	BAV	0	1	1
8p23.1	<i>RP1L1</i>	1	BAV	0	1	1
8p23.1	<i>MIR4286</i>	1	BAV	0	1	1

8p23.1	<i>C8orf74</i>	1	BAV	0	1	0
8p23.1	<i>SOX7</i>	1	BAV	0	1	0
8p23.1	<i>PINX1</i>	1	BAV	0	1	0
8p23.1	<i>MIR1322</i>	1	BAV	0	1	0
8p23.1	<i>XKR6</i>	1	BAV	0	1	0
8p23.1	<i>MIR598</i>	1	BAV	0	1	0
8p23.1	<i>MTMR9</i>	1	BAV	0	1	0
8p23.1	<i>TDH</i>	1	BAV	0	1	0
8p23.1	<i>FAM167A</i>	1	BAV	0	1	0
8p23.1	<i>BLK</i>	1	BAV	0	1	2
8p23.1	<i>GATA4</i>	1	BAV	0	1	0
8p23.1	<i>NEIL2</i>	2	BAV, VSD	0	1	0
8p23.1	<i>FDFT1</i>	2	BAV, VSD	0	1	0
8p23.1	<i>CTSB</i>	2	BAV, VSD	0	1	1
8p23.1	<i>DEFB136</i>	2	BAV, VSD	0	0	2
8p23.1	<i>DEFB135</i>	2	BAV, VSD	0	0	2
8p23.1	<i>DEFB134</i>	2	BAV, VSD	0	0	2
8p11.21	<i>HGSNAT</i>	2	TGA	0	0	6
8p11.1	<i>POTEA</i>	3	TGA, TOF, HLHS	0	1	11
8q11.23	<i>NPBWR1</i>	2	AS, PDA	0	0	0
8q21.3	<i>SLC7A13</i>	1	TOF	0	2	3
9p24.1	<i>KDM4C</i>	1	PS	0	1	11
9q34.3	<i>COL5A1</i>	1	PS	0	1	1
10q21.3	<i>CTNNA3</i>	3	TOF, SI, ASD	0	0	4
10q21.3	<i>LRRTM3</i>	3	TOF, SI, ASD	0	0	0
11q14.1	<i>MIR4300</i>	2	BAV, AS	0	0	2
12p13.31	<i>CD163</i>	1	TOF	0	1	0
12p13.31	<i>APOBEC1</i>	1	TOF	0	1	0
12p13.31	<i>GDF3</i>	1	TOF	0	1	1
12p13.31	<i>DPPA3</i>	1	TOF	0	1	1
12p13.31	<i>CLEC4C</i>	1	TOF	0	1	0
12p13.31	<i>NANOGNB</i>	1	TOF	0	1	0
12p11.1	<i>SYT10</i>	8	TOF(3), IL, PS, ASD, PDA, Other	0	2	9
13q12.11	<i>LATS2</i>	1	CoA	0	1	0
13q12.11	<i>SAP18</i>	1	CoA	0	1	0
13q12.11	<i>MRP63</i>	1	CoA	0	1	0
15q13.3	<i>ARHGAP11A</i>	3	TOF, VSD, TGA	0	0	3
15q13.3	<i>SCG5</i>	4	TOF, VSD, TGA	0	0	4
15q13.3	<i>GREM1</i>	4	TOF, VSD, TGA	0	0	3
15q13.3	<i>FMN1</i>	4	TOF, VSD, TGA	0	0	3
15q14	<i>RYR3</i>	2	TOF, TGA	0	0	4
15q14	<i>AVEN</i>	2	TOF, TGA	0	0	4
15q14	<i>CHRM5</i>	2	TOF, TGA	0	0	3
15q14	<i>C15orf24</i>	2	TOF, TGA	0	0	3
15q14	<i>PGBD4</i>	2	TOF, TGA	0	0	3
15q14	<i>C15orf29</i>	2	TOF, TGA	0	0	2
15q14	<i>TMEM85</i>	2	TOF, TGA	0	0	2
15q14	<i>SLC12A6</i>	2	TOF, TGA	0	0	2
15q25.3	<i>AKAP13</i>	2	BAV, TOF	0	0	16
16p13.11	<i>C16orf45</i>	2	VSD, CoA	0	0	11
16p13.11	<i>KIAA0430</i>	2	VSD, CoA	0	0	12
16p13.11	<i>NDE1</i>	2	VSD, CoA	0	0	12
16p13.11	<i>MIR484</i>	2	VSD, CoA	0	0	12
16p13.11	<i>MYH11</i>	2	VSD, CoA	0	0	12

16p13.11	<i>ABCC1</i>	2	VSD, CoA	0	1	13
16p13.11	<i>ABCC6</i>	2	VSD, CoA	0	1	13
16p12.3	<i>XYLT1</i>	2	TOF, TGA	0	0	2
17q12	<i>ZNHIT3</i>	2	TOF, VSD	0	1	4
17q12	<i>MYO19</i>	2	TOF, VSD	0	1	4
17q12	<i>PIGW</i>	2	TOF, VSD	0	1	4
17q12	<i>GGNBP2</i>	2	TOF, VSD	0	1	4
17q12	<i>DHRS11</i>	2	TOF, VSD	0	1	3
17q12	<i>MRM1</i>	2	TOF, VSD	0	1	3
17q12	<i>LHX1</i>	2	TOF, VSD	0	1	3
17q12	<i>AATF</i>	2	TOF, VSD	0	1	3
17q12	<i>MIR2909</i>	2	TOF, VSD	0	1	3
17q12	<i>ACACA</i>	2	TOF, VSD	0	1	3
17q12	<i>C17orf78</i>	2	TOF, VSD	0	1	3
17q12	<i>TADA2A</i>	2	TOF, VSD	0	1	3
17q12	<i>DUSP14</i>	2	TOF, VSD	0	1	3
17q12	<i>SYNRG</i>	2	TOF, VSD	0	1	3
17q12	<i>DDX52</i>	2	TOF, VSD	0	1	3
17q12	<i>HNF1B</i>	2	TOF, VSD	0	1	3
18p11.32	<i>COLEC12</i>	2	TOF, CoA	0	0	5
18p11.32	<i>CETN1</i>	2	TOF, CoA	0	0	6
18p11.32	<i>CLUL1</i>	2	TOF, CoA	0	0	8
18q22.1	<i>CDH19</i>	2	TOF, VSD	0	0	1
20p12.3	<i>PLCB1</i>	1	VSD	0	1	4
20q13.2	<i>NFATC2</i>	2	TOF, VSD	0	0	0
20q13.2	<i>ATP9A</i>	2	TOF, VSD	0	0	0
20q13.2	<i>SALL4</i>	2	TOF, VSD	0	0	0

AS = Aortic valve stenosis, ASD = Atrial septal defect, BAV = Bicuspid aortic valve, CoA = Coarctation of the aorta, DORV = Double outlet right ventricle, HLHS = Hypoplastic left heart syndrome, IL = Left isomerism, PA = Pulmonary atresia, PDA = Patent ductus arteriosus, PS = Pulmonary valve stenosis, SI = Situs inversus, TGA = Transposition of the great arteries, VSD = Ventricular septal defect.

Table S5. Genes with High Haploinsufficiency (HI) Scores in Rare Deletions Found in CHD Patients

Gene Symbol	Gene Name	HI Score
<i>MAPK1</i>	mitogen-activated protein kinase 1	0.999
<i>ERBB4</i>	v-erb-a erythroblastic leukemia viral oncogene homolog 4 (avian)	0.993
<i>DLG1</i>	discs, large homolog 1 (Drosophila)	0.991
<i>CTBP1</i>	C-terminal binding protein 1	0.99
<i>BMPR1A</i>	bone morphogenetic protein receptor, type IA; similar to ALK-3	0.98
<i>RPL10L</i>	ribosomal protein L10-like	0.975
<i>NUP205</i>	nucleoporin 205kDa	0.966
<i>PPM1F</i>	protein phosphatase 1F (PP2C domain containing)	0.961
<i>KRR1</i>	KRR1, small subunit (SSU) processome component, homolog (yeast)	0.956
<i>GATA4</i>	GATA binding protein 4	0.951
<i>CRKL</i>	v-crk sarcoma virus CT10 oncogene homolog (avian)-like	0.943
<i>HMGB2</i>	high-mobility group box 2	0.936
<i>CDH2</i>	cadherin 2, type 1, N-cadherin (neuronal)	0.934
<i>HDAC9</i>	histone deacetylase 9	0.923
<i>CECR6</i>	cat eye syndrome chromosome region, candidate 6	0.9
<i>PCDH7</i>	protocadherin 7	0.889
<i>PTBP1</i>	polypyrimidine tract binding protein 1	0.875
<i>LDB3</i>	LIM domain binding 3	0.865
<i>MSX1</i>	msh homeobox 1	0.862
<i>CALD1</i>	caldesmon 1	0.836
<i>PDE4B</i>	phosphodiesterase 4B, cAMP-specific (phosphodiesterase E4 dunce homolog, Drosophila)	0.826
<i>MYH11</i>	myosin, heavy chain 11, smooth muscle	0.823
<i>LRRC4C</i>	leucine rich repeat containing 4C	0.817
<i>PAK2</i>	p21 protein (Cdc42/Rac)-activated kinase 2	0.815
<i>THBS2</i>	thrombospondin 2	0.804
<i>BCL9</i>	B-cell CLL/lymphoma 9	0.791
<i>RPS21</i>	ribosomal protein S21	0.79
<i>MED15</i>	mediator complex subunit 15	0.789
<i>DEPDC1B</i>	DEP domain containing 1B	0.786
<i>STK38L</i>	serine/threonine kinase 38 like	0.781
<i>WAPAL</i>	wings apart-like homolog (Drosophila)	0.781
<i>MME</i>	membrane metallo-endopeptidase	0.778
<i>MTPN</i>	myotrophin; leucine zipper protein 6	0.772
<i>PCYT1A</i>	phosphate cytidylyltransferase 1, choline, alpha	0.768
<i>GPM6A</i>	glycoprotein M6A	0.766
<i>FOXC1</i>	forkhead box C1	0.763
<i>PRKAB2</i>	protein kinase, AMP-activated, beta 2 non-catalytic subunit	0.74
<i>OSBPL8</i>	oxysterol binding protein-like 8	0.738
<i>WRNIP1</i>	Werner helicase interacting protein 1	0.733
<i>BPGM</i>	2,3-bisphosphoglycerate mutase	0.725
<i>TNKS</i>	tankyrase, TRF1-interacting ankyrin-related ADP-ribose polymerase	0.721
<i>HAND2</i>	heart and neural crest derivatives expressed 2	0.72
<i>GADD45A</i>	growth arrest and DNA-damage-inducible, alpha	0.719
<i>STIP1</i>	stress-induced-phosphoprotein 1	0.717
<i>USP33</i>	ubiquitin specific peptidase 33	0.714
<i>SERPIND1</i>	serpin peptidase inhibitor, clade D (heparin cofactor), member 1	0.704
<i>GPC5</i>	glypican 5	0.694
<i>SERBP1</i>	SERPINE1 mRNA binding protein 1	0.686
<i>PPFIBP1</i>	PTPRF interacting protein, binding protein 1 (liprin beta 1)	0.672

<i>ZZZ3</i>	zinc finger, ZZ-type containing 3	0.659
<i>DNAJB4</i>	DnaJ (Hsp40) homolog, subfamily B, member 4	0.652
<i>CNOT4</i>	CCR4-NOT transcription complex, subunit 4	0.652
<i>ICMT</i>	isoprenylcysteine carboxyl methyltransferase	0.651
<i>SACS</i>	spastic ataxia of Charlevoix-Saguenay (sacsin)	0.651
<i>CEP135</i>	centrosomal protein 135kDa	0.649
<i>RABGGTB</i>	Rab geranylgeranyltransferase, beta subunit	0.645
<i>TUSC3</i>	tumor suppressor candidate 3	0.645
<i>FUBP1</i>	far upstream element (FUSE) binding protein 1	0.641
<i>PDE6B</i>	phosphodiesterase 6B, cGMP-specific, rod, beta	0.638
<i>KLHL22</i>	kelch-like 22 (Drosophila)	0.634
<i>RGS7BP</i>	regulator of G-protein signaling 7 binding protein	0.629
<i>SGIP1</i>	SH3-domain GRB2-like (endophilin) interacting protein 1	0.627
<i>WSCD1</i>	WSC domain containing 1	0.622
<i>HPGD</i>	hydroxyprostaglandin dehydrogenase 15-(NAD)	0.622
<i>WWOX</i>	WW domain containing oxidoreductase	0.616
<i>LRRTM1</i>	leucine rich repeat transmembrane neuronal 1	0.613
<i>EXOC2</i>	exocyst complex component 2	0.612
<i>ZDHHC17</i>	zinc finger, DHHC-type containing 17	0.611
<i>PCDH17</i>	protocadherin 17	0.608
<i>MSH3</i>	mutS homolog 3 (E. coli)	0.605
<i>SNTB1</i>	syntrophin, beta 1 (dystrophin-associated protein A1, 59kDa, basic component 1)	0.605
<i>PLCB3</i>	phospholipase C, beta 3 (phosphatidylinositol-specific)	0.6
<i>DIDO1</i>	death inducer-obliterator 1	0.594
<i>MSH4</i>	mutS homolog 4 (E. coli)	0.586
<i>GLDC</i>	glycine dehydrogenase (decarboxylating)	0.586
<i>AGPAT5</i>	1-acylglycerol-3-phosphate O-acyltransferase 5 (lysophosphatidic acid acyltransferase, epsilon)	0.585
<i>CDH18</i>	cadherin 18, type 2	0.585
<i>NDST4</i>	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 4	0.584
<i>STK32B</i>	serine/threonine kinase 32B	0.581
<i>ESRRA</i>	estrogen-related receptor alpha	0.579
<i>ANKRD13C</i>	ankyrin repeat domain 13C	0.575
<i>DNAJC10</i>	DnaJ (Hsp40) homolog, subfamily C, member 10	0.569
<i>CNOT6</i>	CCR4-NOT transcription complex, subunit 6	0.565
<i>MLLT3</i>	myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila); translocated to, 3	0.561
<i>HAS2</i>	hyaluronan synthase 2	0.557
<i>SLC7A4</i>	solute carrier family 7 (cationic amino acid transporter, y+ system), member 4	0.554
<i>HOMER2</i>	homer homolog 2 (Drosophila)	0.55
<i>ST6GALNAC5</i>	ST6 (alpha-N-acetyl-neuraminyl-2,3-beta-galactosyl-1,3)-N-acetylgalactosaminide alpha-2,6-sialyltransferase 5	0.547
<i>FUS</i>	fusion (involved in t(12;16) in malignant liposarcoma)	0.546
<i>NDE1</i>	nudE nuclear distribution gene E homolog 1 (A. nidulans)	0.543
<i>PRDX5</i>	peroxiredoxin 5	0.54
<i>KDR</i>	kinase insert domain receptor (a type III receptor tyrosine kinase)	0.538
<i>ADRM1</i>	adhesion regulating molecule 1	0.534
<i>PYCARD</i>	PYD and CARD domain containing	0.533
<i>ADAMTS1</i>	ADAM metallopeptidase with thrombospondin type 1 motif, 1	0.533
<i>SLC27A2</i>	solute carrier family 27 (fatty acid transporter), member 2	0.53
<i>ZC3H6</i>	zinc finger CCCH-type containing 6	0.527
<i>RPS6KA4</i>	ribosomal protein S6 kinase, 90kDa, polypeptide 4	0.525
<i>EDIL3</i>	EGF-like repeats and discoidin I-like domains 3	0.525
<i>GLRA3</i>	glycine receptor, alpha 3	0.523

<i>KIAA1609</i>	KIAA1609	0.523
<i>SNCG</i>	synuclein, gamma (breast cancer-specific protein 1)	0.52
<i>ANGPT2</i>	angiopoietin 2	0.511
<i>LRRC40</i>	leucine rich repeat containing 40	0.505
<i>LRFN5</i>	leucine rich repeat and fibronectin type III domain containing 5	0.496
<i>UQCRC2</i>	ubiquinol-cytochrome c reductase core protein II	0.491
<i>ZC3H18</i>	zinc finger CCCH-type containing 18	0.49
<i>CLOCK</i>	clock homolog (mouse)	0.49
<i>TFRC</i>	transferrin receptor (p90, CD71)	0.489
<i>TMEM55A</i>	transmembrane protein 55A	0.485
<i>LRRC7</i>	leucine rich repeat containing 7	0.485
<i>NIPA1</i>	non imprinted in Prader-Willi/Angelman syndrome 1	0.483
<i>KCNAB2</i>	potassium voltage-gated channel, shaker-related subfamily, beta member 2	0.481
<i>AP4E1</i>	adaptor-related protein complex 4, epsilon 1 subunit	0.479
<i>SLC8A1</i>	solute carrier family 8 (sodium/calcium exchanger), member 1	0.478
<i>LRRC33</i>	leucine rich repeat containing 33	0.477
<i>CTNNA2</i>	catenin (cadherin-associated protein), alpha 2	0.476
<i>SLC35D1</i>	solute carrier family 35 (UDP-glucuronic acid/UDP-N-acetylgalactosamine dual transporter), member D1	0.475
<i>CSRP2</i>	cysteine and glycine-rich protein 2	0.475
<i>SOX7</i>	SRY (sex determining region Y)-box 7	0.468
<i>ASB5</i>	ankyrin repeat and SOCS box-containing 5	0.467
<i>RNF180</i>	ring finger protein 180	0.465
<i>CTNND2</i>	catenin (cadherin-associated protein), delta 2 (neural plakophilin-related arm-repeat protein)	0.464
<i>ZNF141</i>	zinc finger protein 141	0.461
<i>GRID1</i>	glutamate receptor, ionotropic, delta 1	0.461
<i>ARID3A</i>	AT rich interactive domain 3A (BRIGHT-like)	0.456
<i>ADAMTS5</i>	ADAM metalloproteinase with thrombospondin type 1 motif, 5	0.443
<i>GNAZ</i>	guanine nucleotide binding protein (G protein), alpha z polypeptide	0.442
<i>C8orf42</i>	chromosome 8 open reading frame 42	0.439
<i>NECAB1</i>	N-terminal EF-hand calcium binding protein 1	0.437
<i>PHLDA1</i>	pleckstrin homology-like domain, family A, member 1	0.434
<i>THAP7</i>	THAP domain containing 7	0.433
<i>NELL2</i>	NEL-like 2 (chicken)	0.432
<i>VGLL4</i>	vestigial like 4 (Drosophila)	0.431
<i>POLR3E</i>	polymerase (RNA) III (DNA directed) polypeptide E (80kD)	0.424
<i>GRM5</i>	glutamate receptor, metabotropic 5	0.422
<i>C20orf11</i>	chromosome 20 open reading frame 11	0.421
<i>C16orf45</i>	chromosome 16 open reading frame 45	0.415
<i>ADAMTS19</i>	ADAM metalloproteinase with thrombospondin type 1 motif, 19	0.413
<i>AP3B2</i>	adaptor-related protein complex 3, beta 2 subunit	0.412
<i>FGFRL1</i>	fibroblast growth factor receptor-like 1	0.411
<i>VEGFC</i>	vascular endothelial growth factor C	0.406
<i>XKR6</i>	XK, Kell blood group complex subunit-related family, member 6	0.405
<i>VEGFB</i>	vascular endothelial growth factor B	0.396
<i>CYTL1</i>	cytokine-like 1	0.396
<i>CHD5</i>	chromodomain helicase DNA binding protein 5	0.395
<i>FHIT</i>	fragile histidine triad gene	0.395

The genes with HI scores² that were above the mean of total scores in all genes hit by rare deletions in CHD patients are listed.

Table S6. De Novo CNVs and the Mismatches from Expected Inheritance Patterns from Paternal or Maternal Chromosomes

Chr	Start Coordinate	Length	Family ID	Copy Number	Mismatches for Paternal Origin	Mismatches for Maternal Origin
4	173538773	6551325	CHA-91	DEL	0	242
3	197168088	1660486	FCH-306	DEL	0	47
16	85737889	177523	CHA-617	DEL	0	13
6	167037829	67836	NOTT-189b	DEL	0	9
19	252619	52630	CHA-767	DEL	0	2
16	45056281	40613	CHA-25	DEL	0	0
22	31789131	188778	CHA-64a	DEL	5	0
3	105183599	97653	CHA-812	DEL	0	6
1	144967972	1418624	CHA-137	DUP	0*	28*
5	80936354	3045007	CHA-9	DUP	0	105
5	179681237	432453	CHA-750	DUP	0	21
5	178357798	264665	CHA-817	DUP	0	27
9	17735053	50117	NOTT-389	DUP	1	5

* this proband inherited both copies of the paternal chromosome and one copy from the maternal chromosome

Table S7. Rare Nongenic CNVs >500 kb that Are Likely to be Pathogenic

ID	Phenotype	Copy Number	Cytoband	hg18 Start Coordinate	Size
CHA-788.1	Tetralogy of Fallot	DEL	4q34.1	174801597	504840
SYD-1107.1	Double inlet left ventricle	DUP	6q16.1	94610606	634130
NOTT-266.1	Coarctation of the aorta	DEL	6q16.3-q21	104286807	612781
FCH-56.1	Isomerism right	DEL	8q21.13	83141204	511096
FCH-57.1	Atrial septal defect	DEL	8q21.2-q21.13	83170552	1871607
SYD-1847.1	Atrial septal defect	DUP	8q23.2-q23.3	111714363	1470169
NOTT-732.1	Atrial septal defect	DUP	11p12	37046345	580618
OX-1352.1	Atrioventricular septal defect	DUP	13q21.31-q21.32	63251062	982826
FCH-10.1	Tricuspid atresia	DEL	13q21.31	63330923	503322
FCH-324.1	Transposition of the great aorta	DEL	13q21.31	63330923	503322
FCH-295.1	Partial anomalous pulmonary venous drainage	DUP	18q23	73264159	1408553
NOTT-603.1	Ventricular septal defect	DEL	18q23	73514135	713321

Above is the list of rare CNVs detected in CHD patients that do not encompass any known genes, but spanned highly conserved regions, overlapped previously predicted human heart-specific enhancer sequences³, and they were absent in our controls.

REFERENCES

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Table S8. All CNVs

Chromosome	Start	End	ID	Status	CN	CNV Type
1	126116	594171	B00BEML	aff	dup	common genic
1	126116	714646	B00B111	aff	dup	common genic
1	859306	1303878	B00BEGX	aff	dup	rare genic
1	2703187	3062552	B00B19T	aff	dup	rare genic
1	5550499	5856823	B009EHC	unaff	dup	rare genic
1	5986242	6214397	B00BE6R	aff	del	rare genic
1	5987699	6289806	B00BE9J	aff	del	rare genic
1	6039758	6156160	B00B17B	aff	del	rare genic
1	24805320	25276370	B00BQQR	aff	dup	rare genic
1	65454131	78424047	B00BEU8	aff	del	rare genic
1	71194152	71313591	B00B0S8	aff	dup	rare genic
1	73633732	73911693	B00AAY9	unaff	dup	rare nongenic
1	78896611	81646426	B00B1CR	aff	dup	common genic
1	79999498	80308076	B00AAGD	unaff	del	rare nongenic
1	80303364	81959527	B00ABDW	unaff	dup	common nongenic
1	94124969	94323143	B00AABG	unaff	del	rare genic
1	95740345	96084384	B00BE6O	aff	dup	rare nongenic
1	102439976	102601411	B00BEEH	aff	del	common genic
1	102439976	102608173	B00B0MA	aff	del	common genic
1	102439976	102616131	B00B0J2	aff	del	common genic
1	102439976	102616131	B00BDZK	aff	del	common genic
1	102439976	102616131	B00BELR	aff	del	common genic
1	102442898	102616131	B00AB94	unaff	del	common genic

1	103907158	104113235	B00BEFL	aff	dup	common genic
1	103937898	104104873	B00AA6P	unaff	dup	rare genic
1	103938774	104078097	B009RKC	unaff	del	common genic
1	103938774	104078097	B00AAA3	unaff	del	common genic
1	103938774	104078097	B00B12H	aff	del	common genic
1	103938774	104086830	B00B152	aff	del	common genic
1	103938774	104086830	B00BE33	aff	del	common genic
1	103938774	104086830	B00BEKL	aff	del	common genic
1	103939210	104078097	B00B0MC	aff	del	common genic
1	103939210	104078097	B00B0ZE	aff	del	common genic
1	103939210	104086830	B00AAAA	unaff	del	common genic
1	103939210	104086830	B00BDK0	aff	del	common genic
1	103939210	104086830	B00BEJK	aff	del	common genic
1	103939210	104086830	B00BQL6	aff	del	common genic
1	103939210	104086830	B00BQQO	aff	del	common genic
1	103939210	104095839	B009FWS	aff	del	common genic
1	103939210	104095839	B00AA5X	unaff	del	common genic
1	103940395	104071470	B00B0SX	aff	del	common genic
1	103940395	104078097	B009EF2	unaff	del	common genic
1	103940395	104078097	B009FUM	aff	del	common genic
1	103940395	104078097	B00AAH1	unaff	del	common genic
1	103940395	104078097	B00B0EJ	aff	del	common genic
1	103940395	104078097	B00B0JP	aff	del	common genic
1	103940395	104078097	B00B0K4	aff	del	common genic
1	103940395	104078097	B00BDR5	aff	del	common genic

1	103940395	104086830	B00B0VI	aff	del	common genic
1	103940816	104078097	B00BEU1	aff	del	common genic
1	103955289	104078097	B00B0GD	aff	del	common genic
1	103955289	104078097	B00B12N	aff	del	common genic
1	103955289	104078097	B00BQO0	aff	del	common genic
1	103955289	104086830	B00B0Z6	aff	del	common genic
1	103955289	104100767	B00AACI	unaff	del	common genic
1	103956295	104078097	B00BQQ4	aff	del	common genic
1	103967847	104078097	B009EG0	unaff	del	common genic
1	103967847	104078097	B009RKI	unaff	del	common genic
1	103967847	104086830	B00AA8O	unaff	del	common genic
1	103967847	104086830	B00AAA4	unaff	del	common genic
1	103967847	104086830	B00B1A1	aff	del	common genic
1	103967847	104086830	B00BEKG	aff	del	common genic
1	103967847	104091739	B00B12W	aff	del	common genic
1	103967847	104095839	B00B0VQ	aff	del	common genic
1	103967847	104095839	B00B0XV	aff	del	common genic
1	103967847	104095839	B00B11R	aff	del	common genic
1	103967847	104095839	B00B12T	aff	del	common genic
1	103967847	104095839	B00BE2O	aff	del	common genic
1	103967847	104100767	B009EFM	unaff	del	common genic
1	103967847	104100767	B009EH5	unaff	del	common genic
1	103967847	104100767	B00AA7T	unaff	del	common genic
1	103967847	104100767	B00B0FQ	aff	del	common genic
1	103967847	104100767	B00B0XQ	aff	del	common genic

1	103967847	104104873	B009FVA	aff	del	common genic
1	103967847	104104873	B00AAAM	unaff	del	common genic
1	103967847	104104873	B00ABEM	unaff	del	common genic
1	103967847	104104873	B00B132	aff	del	common genic
1	103969048	104078097	B00AB2J	unaff	del	common genic
1	103969048	104078097	B00B0NZ	aff	del	common genic
1	103969048	104078097	B00B15K	aff	del	common genic
1	103969048	104095839	B00B12A	aff	del	common genic
1	103969048	104095839	B00BEDO	aff	del	common genic
1	103969048	104100767	B00ABAM	unaff	del	common genic
1	103969048	104100767	B00B0VW	aff	del	common genic
1	103969048	104100767	B00B1CE	aff	del	common genic
1	103969048	104100767	B00B1D3	aff	del	common genic
1	103969048	104100767	B00BDS6	aff	del	common genic
1	103969048	104100767	B00BEES	aff	del	common genic
1	103969048	104100767	B00BEIF	aff	del	common genic
1	103969048	104100767	B00BEUW	aff	del	common genic
1	103969048	104104873	B00BQS3	aff	del	common genic
1	103974735	104095839	B00AB6T	unaff	del	common genic
1	144106312	146396892	B00B19E	aff	dup	rare genic
1	144106312	147087790	B00B0RM	aff	dup	rare genic
1	144943150	146293282	B00B0J9	aff	dup	rare genic
1	144943150	146293282	B00BDUZ	aff	dup	rare genic
1	144943150	146293282	B00BEAH	aff	dup	rare genic
1	144967972	145848182	B00B0R4	aff	dup	rare genic

1	144967972	146293282	B00B0JM	aff	dup	rare genic
1	144967972	146293282	B00B13U	aff	del	common genic
1	144967972	146293282	B00BE1C	aff	del	common genic
1	144967972	146293828	B009FS7	aff	dup	rare genic
1	144967972	146386595	B00BEGV	aff	del	common genic
1	144967972	146395619	B00ABBU	unaff	del	rare genic
1	145594226	145848182	B00B0FH	aff	dup	candidate
1	145594226	145848182	B00BETA	aff	dup	candidate
1	145658465	145776067	B00BE86	aff	dup	rare genic
1	145658466	145776067	B009G5V	aff	dup	candidate
1	161371366	161550563	B00AB6C	unaff	dup	rare genic
1	161944574	163041998	B00BEBS	aff	dup	rare genic
1	166703060	166967709	B00B121	aff	del	rare genic
1	185998240	186445004	B00BDJY	aff	dup	rare nongenic
1	187852003	187990246	B00AB7I	unaff	dup	rare nongenic
1	191721954	192001523	B00B10N	aff	dup	rare nongenic
1	193309000	193760161	B00B15A	aff	del	rare nongenic
1	195015067	195160949	B00AAC8	unaff	del	common genic
1	195015067	195164017	B009EEV	unaff	del	common genic
1	195015067	195166713	B00AA7S	unaff	del	common genic
1	195022923	195164017	B009FND	aff	del	common genic
1	195043609	195166713	B009G31	aff	del	common genic
1	195048233	195166713	B009FZU	aff	del	common genic
1	228701490	228903667	B009GAK	aff	dup	rare genic
1	229014206	230907837	B00BQLE	aff	dup	rare genic

1	231414343	231621476	B00BQLE	aff	dup	rare genic
1	236719591	236844151	B00BDS3	aff	dup	common nongenic
1	236734032	236846513	B00AAGG	unaff	dup	common nongenic
1	237681988	237841293	B00BQLS	aff	del	rare nongenic
1	238031933	238250572	B00AAGC	unaff	dup	common genic
1	238069042	238403476	B00B0ZJ	aff	dup	common genic
1	238121712	238292083	B00BET1	aff	dup	common genic
1	239093681	239653457	B009EEC	unaff	dup	rare genic
1	246007815	246417399	B00B0OZ	aff	del	rare genic
2	10599696	10880871	B00B1AW	aff	dup	rare genic
2	32487194	33051984	B009G8J	aff	dup	common genic
2	32487194	33078177	B009RKN	unaff	dup	common genic
2	32487194	33168424	B00AA95	unaff	dup	common genic
2	32487194	33168424	B00B135	aff	dup	common genic
2	32487194	33181898	B00AB4R	unaff	dup	common genic
2	32622855	32944171	B00AB8D	unaff	dup	common genic
2	32636267	32967622	B00AAEY	unaff	dup	common genic
2	32961969	33186442	B00B0K4	aff	dup	common genic
2	34819242	34997368	B00BDTW	aff	del	rare nongenic
2	35044711	35279033	B009EEC	unaff	del	rare nongenic
2	40075710	40247644	B00BDTW	aff	del	rare genic
2	43750548	43911571	B009GBN	aff	dup	rare genic
2	45261773	45827640	B00B0WA	aff	dup	rare genic
2	48632568	49317292	B00B0NY	aff	dup	rare genic
2	48748108	48894507	B00AB5E	unaff	del	rare genic

2	49069064	49206179	B00B0YE	aff	del	rare genic
2	50480772	51496826	B00B0XB	aff	dup	rare genic
2	50895846	51068497	B00BE1P	aff	del	rare genic
2	51179406	51502240	B00AB0C	unaff	del	rare nongenic
2	52260564	52436270	B00BDHX	aff	del	rare nongenic
2	57058906	57368345	B00B0K6	aff	del	rare nongenic
2	72324831	72689394	B00B0IK	aff	del	rare genic
2	75351756	75831043	B009FND	aff	dup	rare genic
2	75983378	76978726	B00AAHC	unaff	dup	rare genic
2	76383089	76532292	B00BDU4	aff	del	rare nongenic
2	78365050	78831519	B00BEF8	aff	del	rare nongenic
2	80312812	80717834	B00B0YV	aff	del	rare genic
2	88241514	88601279	B00BEF6	aff	del	rare genic
2	89274697	89739739	B009EFQ	unaff	del	rare nongenic
2	89279517	89739739	B00BELJ	aff	del	common nongenic
2	89282305	89739739	B00AA83	unaff	del	rare nongenic
2	89292108	89739739	B00BE3P	aff	del	common nongenic
2	89304043	89739739	B00BE18	aff	del	common nongenic
2	97904865	98180486	B00BELL	aff	dup	rare genic
2	104460130	104821735	B00BDJF	aff	dup	rare genic
2	106245033	107812504	B009FWJ	aff	dup	common genic
2	106468850	107807545	B00BQON	aff	dup	common genic
2	106468850	112182736	B00AAJK	unaff	dup	common genic
2	108880488	109613659	B00BEL4	aff	dup	common genic
2	110052853	110631960	B00B0WO	aff	del	common genic

2	110214532	110343093	B00AA9D	unaff	del	rare genic
2	111108728	112815283	B00BDUR	aff	del	rare genic
2	111508664	112193235	B00B13J	aff	del	rare genic
2	112040114	112589291	B00AAHP	unaff	dup	rare genic
2	151239400	151443401	B00AA64	unaff	dup	rare nongenic
2	176707258	176921341	B009FOD	aff	dup	rare genic
2	181808061	182182839	B00AA7B	unaff	dup	rare genic
2	182883667	183350873	B00BDPH	aff	del	rare genic
2	188458210	188590986	B00ABBY	unaff	dup	rare nongenic
2	212625003	212797340	B00BEK5	aff	del	rare genic
2	235048683	236034217	B00AAX5	unaff	dup	rare genic
2	237701106	238118570	B00B0FH	aff	dup	rare genic
2	239497749	239779074	B009FUS	aff	dup	rare genic
2	239637820	239785685	B00BE6R	aff	del	rare genic
2	242518428	242653950	B00BQL6	aff	del	common nongenic
2	242518428	242656041	B00AAHZ	unaff	del	rare nongenic
2	242518428	242656041	B00BDH3	aff	del	common nongenic
2	242518428	242671693	B00B0WC	aff	del	common nongenic
2	242518428	242676731	B009EC0	unaff	del	rare nongenic
3	643832	1325458	B00B0L6	aff	dup	rare genic
3	1122201	2026065	B00BQR9	aff	dup	common genic
3	1140284	1635507	B00BEST	aff	dup	common genic
3	1166638	1428696	B00BE15	aff	dup	common genic
3	1210201	1924294	B00AAGD	unaff	dup	common genic
3	1329463	2206148	B00BDS9	aff	dup	common genic

3	1789351	2070542	B00B1AF	aff	del	rare nongenetic
3	2729032	3156297	B00BDKD	aff	dup	rare genic
3	3875135	4156750	B00B0M8	aff	del	common nongenetic
3	3961933	4204796	B00AA6R	unaff	del	common nongenetic
3	3995215	4160026	B00BDUR	aff	del	common nongenetic
3	5707139	6621026	B00BEMW	aff	dup	common nongenetic
3	6085764	6396284	B00AAA6	unaff	dup	rare nongenetic
3	7635133	8134754	B00AB0D	unaff	dup	rare genic
3	11371562	11721737	B00BEBE	aff	del	rare genic
3	11705767	11873859	B00B13G	aff	dup	rare genic
3	15783711	16212012	B00BQQY	aff	dup	rare genic
3	21202723	21413615	B00B0P6	aff	dup	rare nongenetic
3	21927114	22112444	B00BEEG	aff	del	rare nongenetic
3	22060813	22334170	B00BDJF	aff	del	rare nongenetic
3	41334538	41708091	B00B120	aff	del	rare genic
3	41334538	41734529	B009G5V	aff	del	rare genic
3	41334538	41761013	B00B0X6	aff	del	rare genic
3	58472819	60171577	B00B0UA	aff	dup	rare genic
3	59072633	60171577	B009GB2	aff	dup	rare genic
3	60043770	60247357	B00BE78	aff	del	rare genic
3	60043770	60251762	B009G7A	aff	del	rare genic
3	60439116	60593376	B00BQL6	aff	del	rare genic
3	62932946	63189940	B00ABAU	unaff	dup	rare genic
3	65379655	65651730	B00AB9Z	unaff	del	rare genic
3	76125986	76308172	B00B0J8	aff	dup	rare nongenetic

3	76254922	77652511	B00B0DL	aff	dup	rare genic
3	80994692	81218465	B00B0L7	aff	dup	rare nongenic
3	82226341	82582297	B00AAWT	unaff	del	rare nongenic
3	83988108	84988507	B00AA5R	unaff	dup	rare genic
3	98837719	99558233	B00B0IU	aff	dup	rare genic
3	109150641	109950509	B00B0XW	aff	del	rare genic
3	118015373	118655663	B009EEH	unaff	dup	rare nongenic
3	119477874	119703701	B00AA9J	unaff	del	rare nongenic
3	122616238	122901991	B00B11S	aff	dup	rare genic
3	129961232	130195068	B00AB8W	unaff	dup	rare genic
3	156017230	156509714	B009FQ1	aff	del	rare genic
3	156017230	156509714	B00BEFE	aff	del	rare genic
3	159897201	160108290	B00AAHP	unaff	del	rare genic
3	159945795	160155568	B00BEJ3	aff	del	common genic
3	162900560	163030338	B00ABAG	unaff	del	common nongenic
3	162900560	163030338	B00B11B	aff	del	common nongenic
3	162900560	163030338	B00B16F	aff	del	common nongenic
3	162900560	163030338	B00BEJG	aff	del	common nongenic
3	163993833	164123191	B00B1D3	aff	dup	rare nongenic
3	163995377	164096351	B00AB0H	unaff	del	common nongenic
3	163995377	164108060	B009EBZ	unaff	del	common nongenic
3	163995377	164108060	B009ED5	unaff	del	common nongenic
3	163995377	164108060	B009EE5	unaff	del	common nongenic
3	163995377	164108060	B009EEC	unaff	del	common nongenic
3	163995377	164108060	B009EER	unaff	del	common nongenic

3	163995377	164108060	B009EEX	unaff	del	common nongenetic
3	163995377	164108060	B009EFK	unaff	del	common nongenetic
3	163995377	164108060	B009EFP	unaff	del	common nongenetic
3	163995377	164108060	B009EG6	unaff	del	common nongenetic
3	163995377	164108060	B009FNY	aff	del	common nongenetic
3	163995377	164108060	B009FQS	aff	del	common nongenetic
3	163995377	164108060	B009FR4	aff	del	common nongenetic
3	163995377	164108060	B009FZC	aff	del	common nongenetic
3	163995377	164108060	B009G03	aff	del	common nongenetic
3	163995377	164108060	B009G0C	aff	del	common nongenetic
3	163995377	164108060	B009G13	aff	del	common nongenetic
3	163995377	164108060	B009G2P	aff	del	common nongenetic
3	163995377	164108060	B009G31	aff	del	common nongenetic
3	163995377	164108060	B009G34	aff	del	common nongenetic
3	163995377	164108060	B009G41	aff	del	common nongenetic
3	163995377	164108060	B009G76	aff	del	common nongenetic
3	163995377	164108060	B009G7Q	aff	del	common nongenetic
3	163995377	164108060	B009G7R	aff	del	common nongenetic
3	163995377	164108060	B009G7X	aff	del	common nongenetic
3	163995377	164108060	B009G8F	aff	del	common nongenetic
3	163995377	164108060	B009G8G	aff	del	common nongenetic
3	163995377	164108060	B009G8M	aff	del	common nongenetic
3	163995377	164108060	B009GBN	aff	del	common nongenetic
3	163995377	164108060	B009RKC	unaff	del	common nongenetic
3	163995377	164108060	B009RKU	unaff	del	common nongenetic

3	163995377	164108060	B009RL1	unaff	del	common nongenetic
3	163995377	164108060	B009RL3	unaff	del	common nongenetic
3	163995377	164108060	B009RL4	unaff	del	common nongenetic
3	163995377	164108060	B00AA5G	unaff	del	common nongenetic
3	163995377	164108060	B00AA5N	unaff	del	common nongenetic
3	163995377	164108060	B00AA61	unaff	del	common nongenetic
3	163995377	164108060	B00AA6B	unaff	del	common nongenetic
3	163995377	164108060	B00AA6I	unaff	del	common nongenetic
3	163995377	164108060	B00AA6W	unaff	del	common nongenetic
3	163995377	164108060	B00AA6Z	unaff	del	common nongenetic
3	163995377	164108060	B00AA77	unaff	del	common nongenetic
3	163995377	164108060	B00AA7S	unaff	del	common nongenetic
3	163995377	164108060	B00AA8J	unaff	del	common nongenetic
3	163995377	164108060	B00AA97	unaff	del	common nongenetic
3	163995377	164108060	B00AA9L	unaff	del	common nongenetic
3	163995377	164108060	B00AAA9	unaff	del	common nongenetic
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3	177366869	177769362	B00BEDQ	aff	dup	rare nongenetic
3	188312190	188584129	B00BE0K	aff	dup	rare genic
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3	196829898	196961660	B00ABAR	unaff	del	rare genic
3	197172067	198799512	B00B0TA	aff	del	rare genic
3	197222803	197509116	B00B140	aff	dup	rare genic
4	63508	616786	B00BEH5	aff	del	rare genic
4	615962	743944	B00BDNX	aff	dup	rare genic
4	676563	785890	B00B15U	aff	dup	rare genic
4	750258	1381235	B00BDIL	aff	del	rare genic
4	753077	1014752	B00BE94	aff	del	rare genic
4	783929	1014752	B00BE8D	aff	del	rare genic
4	785890	1009011	B00BE5T	aff	del	rare genic
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4	818148	1009011	B00BE9Q	aff	del	rare genic
4	870094	1009011	B00BE6J	aff	del	rare genic
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4	1148991	1342685	B00BE8M	aff	del	rare genic
4	1227014	1342685	B00B17C	aff	del	rare genic
4	1280797	1381235	B00BDK8	aff	del	rare genic
4	3384452	3494855	B00B17B	aff	del	rare genic
4	4845715	5206568	B00BDZG	aff	del	rare genic
4	8271300	8414770	B00AA81	unaff	del	rare genic
4	10311254	11496581	B009G31	aff	dup	rare genic
4	11510030	11833486	B00AAJL	unaff	del	rare nongenic
4	13280866	13896864	B00AABG	unaff	del	rare genic
4	20994665	21911450	B009G8U	aff	del	rare genic
4	30719435	32126633	B00BE1C	aff	del	rare genic
4	35048493	35202344	B00BQQ1	aff	del	rare nongenic
4	55674315	56550424	B00BET3	aff	del	rare genic
4	57834727	58261378	B00B0IB	aff	dup	rare nongenic
4	57836124	58261378	B00BEGH	aff	dup	rare nongenic
4	59271421	59593377	B00BEKY	aff	del	rare nongenic
4	63374623	63807776	B00BELE	aff	dup	rare nongenic
4	70655297	71115627	B00B13I	aff	del	rare genic
4	85107557	85332483	B00BETY	aff	del	rare nongenic
4	89393217	89447952	B00B1D3	aff	dup	candidate
4	91068469	94121905	B00BE25	aff	dup	rare genic
4	92598104	93214903	B00BELA	aff	dup	rare genic
4	92925574	93355820	B00AAY1	unaff	del	rare nongenic
4	95371436	95629282	B00AB5N	unaff	dup	rare genic
4	95496334	95914000	B00BQQY	aff	dup	common genic

4	99365459	99827386	B00B1CE	aff	dup	rare genic
4	116183829	116684288	B00BDMV	aff	del	rare genic
4	120133025	121677135	B009EFI	unaff	dup	rare genic
4	126276161	126938646	B00B0UI	aff	dup	rare genic
4	127744542	127907884	B00B0IT	aff	del	rare nongenic
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4	130737836	130934218	B00AAJR	unaff	del	rare nongenic
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4	135141815	135395786	B00B174	aff	del	common genic
4	135141815	135415132	B00AA8Q	unaff	del	common genic
4	135151781	135395786	B00BEN5	aff	del	common genic
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4	151542940	152070096	B00BDJY	aff	dup	rare genic
4	164019208	166219645	B00B105	aff	dup	rare genic
4	169051922	169224618	B00B0HH	aff	del	common nongenic
4	169051922	169224618	B00B1A2	aff	del	common nongenic
4	169051922	169229016	B00AAG4	unaff	del	common nongenic
4	169051922	169229016	B00B0RP	aff	del	common nongenic
4	169056796	169224618	B00B0VZ	aff	del	common nongenic
4	169056796	169229016	B009EFM	unaff	del	common nongenic
4	169056796	169229016	B00AABS	unaff	del	common nongenic
4	169056796	169229016	B00AB5K	unaff	del	common nongenic
4	169056796	169229016	B00B0WO	aff	del	common nongenic

4	169056796	169229016	B00BEU5	aff	del	common nongenic
4	169056796	169229016	B00BQND	aff	del	common nongenic
4	173538773	180090097	B009FQ7	aff	del	rare genic
4	173898286	174379449	B00AAX7	unaff	dup	rare genic
4	174801596	175306436	B009G0I	aff	del	rare nongenic
4	177268919	177828863	B00AAX7	unaff	dup	rare genic
4	181640543	181995789	B009EFH	unaff	del	rare nongenic
4	183154798	183509306	B00BE9S	aff	dup	rare genic
4	188131629	188641768	B00B0KE	aff	dup	common genic
4	188279758	188676957	B00B0W2	aff	del	rare genic
4	188422483	190293064	B00AAWZ	unaff	dup	common genic
4	188698152	189171613	B00BE96	aff	del	rare genic
4	188706532	189298100	B00B0R7	aff	dup	common genic
4	188723132	189208483	B00B153	aff	dup	common genic
4	189299208	189993990	B00B0IM	aff	del	rare genic
4	189450919	189798178	B00BE8M	aff	dup	common genic
4	189608238	190024149	B009G47	aff	del	rare genic
4	189910088	190322725	B00BE8M	aff	dup	common nongenic
4	190183902	190650056	B00AB9J	unaff	dup	rare genic
4	190195104	190783958	B00BQR5	aff	dup	common genic
5	457713	608138	B00BE9J	aff	del	rare genic
5	1542706	1647096	B00BE00	aff	del	rare genic
5	9240035	9889777	B00B0KK	aff	dup	rare genic
5	10936382	11358217	B00BEFZ	aff	dup	rare genic
5	11189164	11292180	B00B0WJ	aff	del	rare genic

5	12652348	12818292	B00BEG8	aff	del	rare genic
5	16707960	17047804	B00BDTL	aff	dup	rare genic
5	17780897	20721054	B00BDU5	aff	del	rare genic
5	18873891	18985138	B00B0JO	aff	del	rare nongenic
5	19055301	19307090	B009FN1	aff	del	rare nongenic
5	19055301	19307090	B009G41	aff	del	rare nongenic
5	21130619	21468201	B009FQ4	aff	del	rare nongenic
5	22229724	23324930	B009G8F	aff	dup	rare genic
5	23246363	23920197	B00BQRD	aff	del	common genic
5	23324930	24242495	B00AAY9	unaff	del	rare genic
5	25943666	26168705	B00ABDE	unaff	del	rare nongenic
5	28405338	28694972	B00AAXI	unaff	del	rare nongenic
5	29672799	30013867	B00AAE3	unaff	dup	common nongenic
5	29797618	29967547	B00BEA7	aff	dup	common nongenic
5	45282852	45704795	B00AB53	unaff	dup	rare genic
5	53510606	53771056	B00BEFO	aff	dup	rare genic
5	59502960	60033993	B00B0XJ	aff	del	rare genic
5	61134031	61360715	B00B0HF	aff	dup	rare nongenic
5	63345648	63900802	B00BDIV	aff	del	rare genic
5	65809468	66314669	B009FUA	aff	dup	rare genic
5	68865824	70608833	B00BE8R	aff	dup	rare genic
5	68897286	70302056	B00B0SE	aff	dup	rare genic
5	69411665	70122721	B009G6P	aff	dup	rare genic
5	69411665	70302056	B009G76	aff	dup	rare genic
5	69411665	70302056	B00BDUQ	aff	dup	rare genic

5	69411665	70461753	B00BDV7	aff	dup	rare genic
5	69411665	70568903	B00BDU2	aff	dup	rare genic
5	70292684	70444357	B00B0H9	aff	del	rare genic
5	75132315	75446387	B009G7T	aff	del	rare genic
5	79970592	80299621	B00BEL3	aff	del	rare genic
5	80151846	80519330	B00AAHK	unaff	dup	rare genic
5	80936354	85873616	B009FNG	aff	dup	rare genic
5	83236774	83369744	B00B0VH	aff	del	rare genic
5	83835179	83943410	B00B0P6	aff	del	candidate
5	83835179	83943410	B00BQQ2	aff	del	candidate
5	84838441	85510893	B00AA7V	unaff	dup	rare nongenic
5	84977466	85306538	B00AAGC	unaff	del	rare nongenic
5	93608265	93815065	B00AA5T	unaff	del	rare genic
5	97359198	97619171	B00ABDA	unaff	dup	rare nongenic
5	97428723	97533036	B00AB0M	unaff	del	rare nongenic
5	99486205	99693322	B00B128	aff	del	rare nongenic
5	100865225	101153552	B009FZC	aff	del	rare nongenic
5	101031711	101296078	B00B0XG	aff	del	rare nongenic
5	101503405	102033686	B00AB5B	unaff	del	rare genic
5	103409821	103794893	B00AAHW	unaff	del	rare nongenic
5	103769334	104206497	B00BE8Y	aff	del	rare nongenic
5	103848239	104873156	B00BE82	aff	dup	rare genic
5	104055999	104593641	B00B0PT	aff	del	rare genic
5	104226959	104383282	B00B0L6	aff	del	rare nongenic
5	105045010	109092198	B009EBZ	unaff	dup	rare genic

5	106075829	106251435	B00AAWW	unaff	del	rare nongenic
5	110881025	111115706	B009FNP	aff	del	rare genic
5	117768444	118011511	B00B0WA	aff	del	rare nongenic
5	120137142	120401936	B00B179	aff	del	rare nongenic
5	121880146	122332337	B00B0R7	aff	dup	rare genic
5	124083817	124904934	B00ABBB	unaff	dup	rare genic
5	128381952	128911044	B00B1B4	aff	del	rare genic
5	140457078	140565698	B00BE2Q	aff	del	rare genic
5	140457078	140608740	B00BDJ7	aff	del	rare genic
5	142146025	142380312	B00B0JI	aff	dup	rare genic
5	162455558	162773916	B00AAAY7	unaff	del	rare nongenic
5	163587978	164014586	B00BEKB	aff	dup	rare nongenic
5	178043890	178580975	B00AA7L	unaff	dup	common genic
5	178357150	178646318	B009G1X	aff	dup	common genic
5	179433328	179681237	B00B0SX	aff	dup	rare genic
5	179716376	179949250	B00B1D4	aff	del	rare genic
6	110391	2721302	B00B11N	aff	del	rare genic
6	929646	1229697	B00BQMF	aff	dup	rare genic
6	4251352	4414640	B00BQOV	aff	del	rare nongenic
6	5389000	5772499	B00AB9M	unaff	dup	rare genic
6	5558936	6084568	B00BEMK	aff	dup	common genic
6	8739121	8896082	B00BQNT	aff	del	rare nongenic
6	21097265	21225585	B00BE21	aff	del	rare genic
6	33131041	33235965	B00AB7U	unaff	del	rare genic
6	57437845	57785351	B00AB6N	unaff	dup	common genic

6	57643552	58183439	B00AB1F	unaff	dup	common nongenic
6	57643552	58183439	B00B0L3	aff	dup	common nongenic
6	57766265	58183439	B00B0W2	aff	dup	common nongenic
6	61949597	62945058	B00B0L3	aff	dup	common genic
6	62009819	62173501	B00B0W2	aff	dup	rare nongenic
6	62317164	62887303	B00AA83	unaff	dup	common genic
6	62317164	62957473	B00AB1F	unaff	dup	common genic
6	65684876	65873533	B00AB63	unaff	del	rare genic
6	65996954	66465479	B00BEF6	aff	dup	rare genic
6	67196601	67392564	B00B0SU	aff	dup	rare nongenic
6	84422168	85100638	B00B133	aff	dup	rare genic
6	87355020	87985690	B00BEGA	aff	dup	rare genic
6	94610606	95244735	B00BEEM	aff	dup	rare nongenic
6	95048048	95543872	B009G83	aff	del	rare nongenic
6	95507138	95616345	B00BETQ	aff	del	rare nongenic
6	104286807	104899587	B00BE9E	aff	del	rare nongenic
6	118779768	119177507	B00AB6N	unaff	dup	rare genic
6	122084816	122622855	B00AB5Q	unaff	dup	rare nongenic
6	123590696	124371375	B00AB8E	unaff	dup	rare genic
6	130815508	130929945	B00AAIZ	unaff	dup	rare nongenic
6	160602208	160975914	B00BQO0	aff	dup	rare genic
6	161521152	161647782	B00AAG9	unaff	dup	rare genic
6	162154323	162670082	B00AAG6	unaff	del	common genic
6	162316649	162485708	B009FWV	aff	del	common genic
6	162316649	162547280	B00B1AE	aff	del	common genic

6	162385193	163001802	B00B1B4	aff	dup	common genic
6	162386612	162644237	B00BE1Q	aff	del	common genic
6	162543210	162935269	B00BEMG	aff	dup	common genic
6	162552161	162840363	B00B0RP	aff	dup	common genic
6	162566759	162769931	B00AB8V	unaff	del	rare genic
6	162566759	162806676	B00AA73	unaff	dup	common genic
6	162580056	162805539	B00BEV9	aff	dup	common genic
6	162580056	162840363	B00AB4C	unaff	dup	common genic
6	162580056	162979704	B00BQNC	aff	dup	common genic
6	162622524	162824155	B00BECN	aff	dup	common genic
6	162637688	162834976	B009EDV	unaff	dup	common genic
6	162644237	162834267	B00BQS5	aff	dup	common genic
6	162644237	162834976	B00BDJ0	aff	dup	common genic
6	162687672	162809965	B00B12U	aff	del	common genic
6	162791913	162965453	B00ABEB	unaff	del	rare genic
6	168071512	168324211	B00B124	aff	dup	common genic
6	168071512	168342182	B00AA77	unaff	dup	common genic
6	168078929	168274300	B00BEAX	aff	dup	common genic
6	168078929	168293188	B00BE92	aff	dup	common genic
6	168078929	168323590	B00B0Z1	aff	dup	common genic
6	168078929	168323590	B00BE1F	aff	dup	common genic
6	168078929	168323590	B00BE1M	aff	dup	common genic
6	168078929	168324211	B00B0UL	aff	dup	common genic
6	168078929	168326598	B00AB2E	unaff	dup	common genic
6	168078929	168334983	B00BEGB	aff	dup	common genic

6	168078929	168336805	B00BEDQ	aff	dup	common genic
6	168078929	168339100	B009RJZ	unaff	dup	common genic
6	168078929	168339100	B00B0J1	aff	dup	common genic
6	168078929	168341048	B00B1AU	aff	dup	common genic
6	168078929	168342182	B00AAYC	unaff	dup	common genic
6	168078929	168342182	B00ABA6	unaff	dup	common genic
6	168078929	168342182	B00BORF	aff	dup	common genic
6	168078929	168342182	B00BORL	aff	dup	common genic
6	168078929	168342182	B00BORS	aff	dup	common genic
6	168083754	168323590	B00B0LS	aff	dup	common genic
6	168083754	168334983	B00ABAW	unaff	dup	common genic
6	168083754	168334983	B00BE2D	aff	dup	common genic
6	168083754	168342182	B00B152	aff	dup	common genic
6	168083754	168342182	B00BQO3	aff	dup	common genic
6	168083754	168342182	B00BQPV	aff	dup	common genic
6	168085280	168217798	B00BDRK	aff	dup	common genic
6	168085280	168301695	B00BETT	aff	dup	common genic
6	168085280	168319676	B00BDZP	aff	dup	common genic
6	168085280	168323590	B009EG4	unaff	dup	common genic
6	168085280	168342182	B00BEW1	aff	dup	common genic
6	168085280	168355480	B00AAVD	unaff	dup	common genic
6	168086687	168274300	B009FZI	aff	dup	common genic
6	168086687	168274300	B00B13C	aff	dup	common genic
6	168086687	168274300	B00BEVJ	aff	dup	common genic
6	168086687	168319676	B009FZU	aff	dup	common genic

6	168086687	168323590	B00BDYX	aff	dup	common genic
6	168086687	168323590	B00BEMY	aff	dup	common genic
6	168086687	168324211	B009G94	aff	dup	common genic
6	168086687	168334983	B009RL1	unaff	dup	common genic
6	168086687	168334983	B00BEFY	aff	dup	common genic
6	168086687	168341048	B009G3A	aff	dup	common genic
6	168086687	168342182	B00AAHY	unaff	dup	common genic
6	168086687	168342182	B00B0W5	aff	dup	common genic
6	168086687	168342182	B00BDH2	aff	dup	common genic
6	168086687	168342182	B00BDTJ	aff	dup	common genic
6	168086687	168342182	B00BEKK	aff	dup	common genic
6	168086687	168352184	B00B16U	aff	dup	common genic
6	168091860	168293033	B00BDSP	aff	dup	common genic
6	168091860	168319676	B009EBL	unaff	dup	common genic
6	168091860	168326598	B009GBL	aff	dup	common genic
6	168091860	168334983	B00B13M	aff	dup	common genic
6	168091860	168336805	B009GAN	aff	dup	common genic
6	168091860	168339100	B00AA6A	unaff	dup	common genic
6	168091860	168341048	B00B12R	aff	dup	common genic
6	168091860	168342182	B009G7N	aff	dup	common genic
6	168091860	168342182	B00B0Y2	aff	dup	common genic
6	168091860	168355480	B009G8T	aff	dup	common genic
6	168134708	168326598	B00B0NT	aff	dup	common genic
6	168138806	168319676	B00BDIM	aff	dup	common genic
6	168153325	168299155	B00AA8T	unaff	dup	common genic

6	168156044	168342182	B00B14Y	aff	dup	common genic
6	168167925	168292816	B00B131	aff	dup	common genic
6	168167925	168319676	B009EBU	unaff	dup	common genic
6	168175085	168342182	B00BQLE	aff	dup	common genic
6	168205614	168339100	B00BE0K	aff	dup	common genic
6	168217798	168319676	B00BDKE	aff	dup	common genic
6	168233081	168342182	B00AACC	unaff	dup	common nongenic
6	168397753	170511818	B00B19X	aff	del	rare genic
6	168654150	168802701	B00BE0I	aff	dup	rare genic
6	169572425	169974432	B00ABDL	unaff	dup	rare genic
6	169968325	170273260	B00BE0I	aff	dup	common nongenic
7	3348315	3552086	B009EFB	unaff	dup	rare genic
7	3445958	3733345	B00BES9	aff	del	rare genic
7	4334226	4497466	B009G13	aff	del	rare nongenic
7	4334226	4497466	B00BQNF	aff	dup	rare nongenic
7	4342226	4497466	B00B1CI	aff	del	rare nongenic
7	5285913	6363244	B00B0K5	aff	del	rare genic
7	6896187	7317208	B00AB1Y	unaff	dup	rare genic
7	8923566	9160323	B009G6B	aff	del	rare nongenic
7	8939335	9002835	B009FUP	aff	del	candidate
7	9250145	9715475	B00BEEZ	aff	dup	rare genic
7	9481054	9586749	B00BDIL	aff	del	rare nongenic
7	11311673	11825071	B00BE6K	aff	dup	rare genic
7	11982738	12156889	B00AB6C	unaff	del	rare nongenic
7	11982738	12156889	B00BEV0	aff	del	common nongenic

7	14283746	15141952	B00B1CH	aff	dup	rare genic
7	15091888	15231562	B00B109	aff	del	rare genic
7	16882053	17220447	B00AB5Z	unaff	dup	rare genic
7	16882053	17372243	B00BDJU	aff	dup	common genic
7	16884996	17316151	B009RKW	unaff	dup	rare genic
7	16924924	17186413	B00AA5I	unaff	dup	rare nongenic
7	18120455	18270590	B00BEET	aff	del	rare genic
7	29175877	29501850	B009EF2	unaff	dup	rare genic
7	32175752	32389924	B00BEWD	aff	dup	rare genic
7	40160060	40727023	B00BEU9	aff	del	rare genic
7	48273843	48388402	B00BE22	aff	del	rare genic
7	52318373	53339838	B00BEFW	aff	dup	rare genic
7	56800546	57659300	B00BDK7	aff	dup	rare genic
7	57294710	57525307	B00B0JM	aff	dup	rare genic
7	61106115	61612697	B00BQNM	aff	dup	rare nongenic
7	61649656	62075724	B00B18S	aff	dup	common nongenic
7	61649656	62475967	B00AACM	unaff	dup	common genic
7	61681059	62336389	B00AA90	unaff	dup	common nongenic
7	61681059	62372905	B00AB5E	unaff	dup	common nongenic
7	62050982	62475967	B00BESD	aff	dup	common genic
7	64362745	64623517	B009G3J	aff	del	common genic
7	64367407	64564258	B00BDTL	aff	del	common genic
7	64367407	64564258	B00BQN0	aff	del	common genic
7	64367407	64621013	B009EG1	unaff	del	common genic
7	64367407	64621013	B00B0UG	aff	del	common genic

7	64367407	64621013	B00B0VR	aff	del	common genic
7	64367407	64621013	B00B0WK	aff	del	common genic
7	64367407	64621013	B00BEDU	aff	del	common genic
7	64367407	64621013	B00BEIF	aff	del	common genic
7	64367407	64621013	B00BQP8	aff	del	common genic
7	64367407	64621013	B00BQRA	aff	del	common genic
7	64367407	64623517	B00BE0S	aff	del	common genic
7	64369181	64564258	B009GBK	aff	del	common genic
7	64381033	64564258	B00AAFQ	unaff	del	common genic
7	64381033	64564258	B00AB9Y	unaff	del	common genic
7	64381033	64593616	B00AA6G	unaff	del	common genic
7	64381033	64621013	B009EGY	unaff	del	common genic
7	64381033	64621013	B00AA84	unaff	del	common genic
7	64381033	64621013	B00BEHP	aff	del	common genic
7	64381033	64621013	B00BQOK	aff	del	common genic
7	64381033	64623517	B00B0LB	aff	del	common genic
7	64382608	64621013	B00B0O5	aff	del	common genic
7	66640232	66974982	B00BEFY	aff	dup	rare nongenic
7	71204277	71476143	B00AAGK	unaff	dup	rare genic
7	81302171	81455232	B00AABQ	unaff	dup	rare genic
7	81903851	82452185	B00BEE7	aff	dup	rare genic
7	87986401	89561733	B00BDR3	aff	dup	common genic
7	88024334	89347872	B00B121	aff	dup	common genic
7	88186382	89696837	B00AB0V	unaff	dup	common genic
7	88247949	89070411	B00B114	aff	dup	common genic

7	88305903	88975358	B009FN7	aff	dup	common genic
7	88485794	88924574	B00B18T	aff	del	rare genic
7	88485794	89347872	B00BDJP	aff	dup	common genic
7	96110057	96378591	B009FZ9	aff	dup	rare genic
7	100747270	101073344	B009EFP	unaff	dup	common genic
7	100755083	100914175	B00B0LY	aff	dup	common genic
7	100755083	100914175	B00BETB	aff	dup	common genic
7	108559459	108818971	B00BQMC	aff	del	rare nongenic
7	110711525	111077203	B00BQLL	aff	del	common genic
7	110711525	111116572	B00AAWX	unaff	del	common genic
7	110744530	110956463	B00AB6T	unaff	del	common genic
7	110747117	111034187	B00BDHX	aff	del	common genic
7	110761280	111116572	B00BDV8	aff	del	common genic
7	110780405	110987007	B00AAJ9	unaff	del	common genic
7	110810558	110956463	B009GAN	aff	del	common genic
7	110837011	110987007	B00B13S	aff	del	common genic
7	117247490	118948670	B00BDUM	aff	dup	rare genic
7	119820650	120011536	B00AAJF	unaff	del	rare genic
7	133180188	133686853	B00ABCF	unaff	dup	rare genic
7	133815486	135724896	B00B14F	aff	del	rare genic
7	135469891	135735968	B00B11X	aff	dup	rare nongenic
7	143518119	143679865	B00B0YL	aff	dup	common genic
7	143518119	143701573	B00B0EG	aff	dup	common genic
7	143518119	143701573	B00BDJ2	aff	dup	common genic
7	143521850	143682177	B009EF0	unaff	dup	common genic

7	143525695	143677143	B00BDL6	aff	dup	common genic
7	143528122	143701573	B009EFA	unaff	dup	common genic
7	143539215	143705232	B00BE1D	aff	dup	common genic
7	143547020	143705232	B00BE9U	aff	dup	common genic
7	143581810	143705232	B00BDJA	aff	dup	common genic
7	143855577	144128605	B00ABCJ	unaff	del	rare genic
7	144546962	144839982	B00BEIO	aff	dup	rare nongenic
7	144592154	144944871	B00B0JH	aff	del	rare nongenic
7	152666982	152987365	B009FS7	aff	dup	rare nongenic
7	154099909	154734715	B00B0L8	aff	dup	rare genic
8	320328	12285893	B00BEH9	aff	del	rare genic
8	395951	1120762	B00BQR1	aff	dup	common genic
8	1073568	1291535	B00AAAYE	unaff	dup	rare genic
8	2311920	2570171	B009EEC	unaff	dup	common nongenic
8	2312456	2570171	B009G71	aff	dup	common nongenic
8	2312456	2570171	B00B128	aff	dup	common nongenic
8	2326943	2435037	B00B0KS	aff	dup	common nongenic
8	2326943	2570171	B009EDZ	unaff	dup	common nongenic
8	2326943	2570171	B009FNP	aff	dup	common nongenic
8	2326943	2570171	B00B0IA	aff	dup	common nongenic
8	2326943	2570171	B00B0RW	aff	dup	common nongenic
8	2326943	2570171	B00BE9N	aff	dup	common nongenic
8	2326943	2570171	B00BEAH	aff	dup	common nongenic
8	2327064	2570171	B00BDVO	aff	dup	common nongenic
8	2327373	2570171	B00AA9F	unaff	dup	common nongenic

8	2327373	2570171	B00B0PD	aff	dup	common nongenetic
8	2334306	2435771	B00BQLJ	aff	dup	common nongenetic
8	2334306	2503143	B00B0W2	aff	dup	common nongenetic
8	2334306	2570171	B009G8M	aff	dup	common nongenetic
8	2334306	2570171	B00AAD3	unaff	dup	common nongenetic
8	2334306	2570171	B00AAHB	unaff	dup	common nongenetic
8	2334306	2570171	B00AA9Y	unaff	dup	common nongenetic
8	2334306	2570171	B00B0SR	aff	dup	common nongenetic
8	2334306	2570171	B00BEGT	aff	dup	common nongenetic
8	2334306	2570171	B00BQNZ	aff	dup	common nongenetic
8	2532631	2633010	B00BELP	aff	del	rare nongenetic
8	4213998	4989886	B00BDHO	aff	dup	rare genic
8	4856110	4998641	B00B13X	aff	del	rare nongenetic
8	5290497	5417709	B00AA9Y	unaff	del	rare nongenetic
8	5571782	5733260	B00AA6V	unaff	del	rare nongenetic
8	5631076	5876113	B00BEJ9	aff	del	common nongenetic
8	5779846	6493357	B00AAWR	unaff	dup	rare genic
8	5895729	6348637	B00BEB0	aff	del	rare genic
8	6505951	6818932	B009FXJ	aff	del	rare genic
8	6642801	6820793	B00B11L	aff	dup	rare genic
8	7098652	7929028	B00BDGZ	aff	dup	rare genic
8	7098652	8033891	B00BDIN	aff	dup	rare genic
8	7098652	8064899	B00BDIQ	aff	dup	rare genic
8	7098652	8109345	B00BDUQ	aff	dup	rare genic
8	7165298	7929028	B00BE6E	aff	dup	rare genic

8	7230125	7802723	B00B0TB	aff	dup	rare genic
8	7230125	8092342	B00B112	aff	dup	rare genic
8	7295894	8068724	B00BE39	aff	dup	rare genic
8	8135489	11935618	B00B1B1	aff	del	rare genic
8	8356260	8485839	B00B16B	aff	del	rare nongenic
8	8871300	9769304	B009G7B	aff	dup	rare genic
8	9008510	9149982	B00AB4U	unaff	del	rare genic
8	9073239	9360925	B00BEJT	aff	del	common genic
8	10131787	11935618	B00BQQJ	aff	dup	rare genic
8	11313952	11786054	B00BQQ6	aff	del	rare genic
8	11642267	11738607	B00BDS3	aff	del	rare genic
8	11673355	12042755	B00B0YS	aff	dup	rare genic
8	11934240	12072268	B00BDRR	aff	dup	rare genic
8	12046608	12456830	B00B11F	aff	dup	rare genic
8	13413432	13668055	B00BEI0	aff	dup	rare genic
8	13626738	13816988	B009FTJ	aff	del	rare nongenic
8	15506367	15929497	B00BEWO	aff	dup	rare genic
8	15569638	15676399	B00BDU2	aff	del	rare genic
8	15702127	15946967	B009G84	aff	dup	rare nongenic
8	18564359	19828854	B00BEHD	aff	dup	rare genic
8	20001369	20256683	B00BDLN	aff	dup	rare genic
8	20691655	20864515	B00BE07	aff	dup	common nongenic
8	20698008	20864515	B009EH5	unaff	dup	rare nongenic
8	24551483	24912421	B00BQMD	aff	dup	rare genic
8	39351738	39506336	B009FZI	aff	del	rare genic

8	43048383	43910848	B00B0XJ	aff	dup	rare genic
8	43143782	43910848	B00B1AX	aff	dup	rare genic
8	43274108	43868883	B00B0VK	aff	dup	rare genic
8	43592905	43868883	B00BDNO	aff	dup	rare nongenic
8	43592905	43910848	B00BDMC	aff	dup	rare nongenic
8	43592905	43957926	B00BDNX	aff	dup	rare nongenic
8	43689385	43868883	B00BDMU	aff	dup	rare nongenic
8	43689385	43957926	B00BDMV	aff	dup	rare nongenic
8	47062007	48554848	B00BEKH	aff	dup	rare genic
8	47229654	48066866	B00B0L7	aff	dup	rare genic
8	47339255	47526930	B00BDNO	aff	dup	rare nongenic
8	53882866	54281947	B00B0V2	aff	dup	rare genic
8	53882866	54305368	B00B0YK	aff	dup	rare genic
8	62747549	63387581	B00B0OZ	aff	dup	rare genic
8	68828486	69229906	B00AB21	unaff	del	rare genic
8	83141204	83652299	B00B0WN	aff	del	rare nongenic
8	83170552	85042158	B00B0U7	aff	del	rare nongenic
8	85477395	86229096	B00B0WZ	aff	dup	rare genic
8	87256166	87403084	B00BESG	aff	dup	rare genic
8	89017941	89174612	B00B0JJ	aff	dup	rare genic
8	91701765	92157337	B00BEK9	aff	del	rare genic
8	96587380	96779761	B00AB4R	unaff	dup	rare genic
8	111714363	113184531	B00BEIY	aff	dup	rare nongenic
8	117640909	117894249	B00ABAW	unaff	dup	rare genic
8	121241442	123685278	B00B0WK	aff	del	rare genic

8	137757137	137922366	B009EDB	unaff	del	common nongenetic
8	137757137	137922366	B009GAF	aff	del	common nongenetic
8	137757137	137922366	B00B0IK	aff	del	common nongenetic
8	137757137	137922366	B00B0TJ	aff	del	common nongenetic
8	137757137	137922366	B00B0U4	aff	del	common nongenetic
8	137757137	137922366	B00B10D	aff	del	common nongenetic
8	137757137	137922366	B00B174	aff	del	common nongenetic
8	137757137	137922366	B00B1A3	aff	del	common nongenetic
8	137757137	137922366	B00B1BK	aff	del	common nongenetic
8	137757137	137922366	B00BDJY	aff	del	common nongenetic
8	137757137	137922366	B00BE1T	aff	del	common nongenetic
8	137757137	137922366	B00BEHP	aff	del	common nongenetic
8	137757137	137922366	B00BEWN	aff	del	common nongenetic
8	137757137	137922366	B00BQL2	aff	del	common nongenetic
8	137757137	137922366	B00BQO5	aff	del	common nongenetic
8	137757137	137922366	B00BQOJ	aff	del	common nongenetic
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8	137757137	137923013	B009EFW	unaff	del	common nongenetic
8	137757137	137923013	B00AAZ9	unaff	del	common nongenetic
8	137757137	137923013	B00AB4Z	unaff	del	common nongenetic
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8	137757137	137923013	B00B0GQ	aff	del	common nongenetic
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8	137757137	137923013	B00B0KB	aff	del	common nongenetic
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8	137757137	137923013	B00B133	aff	del	common nongenetic
8	137757137	137923013	B00B13K	aff	del	common nongenetic
8	137757137	137923013	B00B1BR	aff	del	common nongenetic
8	137757137	137923013	B00BDZH	aff	del	common nongenetic
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8	137757137	137923013	B00BQP5	aff	del	common nongenetic
8	137757137	137923013	B00BQQ8	aff	del	common nongenetic
8	137757137	137924480	B00B1BV	aff	del	common nongenetic
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8	137757137	137924480	B00BE7S	aff	del	common nongenetic
8	137757137	137925454	B009EEY	unaff	del	common nongenetic
8	137757137	137925454	B009EFF	unaff	del	common nongenetic
8	137757137	137925454	B009FO1	aff	del	common nongenetic
8	137757137	137925454	B009FO4	aff	del	common nongenetic
8	137757137	137925454	B009G2M	aff	del	common nongenetic
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8	137757137	137925454	B009GB0	aff	del	common nongenetic
8	137757137	137925454	B00AA9F	unaff	del	common nongenetic
8	137757137	137925454	B00AACT	unaff	del	common nongenetic
8	137757137	137925454	B00AAFD	unaff	del	common nongenetic
8	137757137	137925454	B00AAJH	unaff	del	common nongenetic
8	137757137	137925454	B00AAVC	unaff	del	common nongenetic

8	137757137	137925454	B00AAWS	unaff	del	common nongenetic
8	137757137	137925454	B00AAXP	unaff	del	common nongenetic
8	137757137	137925454	B00AAYA	unaff	del	common nongenetic
8	137757137	137925454	B00AAYU	unaff	del	common nongenetic
8	137757137	137925454	B00AAZN	unaff	del	common nongenetic
8	137757137	137925454	B00AB1P	unaff	del	common nongenetic
8	137757137	137925454	B00ABD8	unaff	del	common nongenetic
8	137757137	137925454	B00B0IM	aff	del	common nongenetic
8	137757137	137925454	B00B0IT	aff	del	common nongenetic
8	137757137	137925454	B00B0LC	aff	del	common nongenetic
8	137757137	137925454	B00B0LE	aff	del	common nongenetic
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8	137757137	137925454	B00B0SE	aff	del	common nongenetic
8	137757137	137925454	B00B0T2	aff	del	common nongenetic
8	137757137	137925454	B00B0VT	aff	del	common nongenetic
8	137757137	137925454	B00B0VU	aff	del	common nongenetic
8	137757137	137925454	B00B0X1	aff	del	common nongenetic
8	137757137	137925454	B00B0XU	aff	del	common nongenetic
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8	137757137	137925454	B00B124	aff	del	common nongenetic
8	137757137	137925454	B00B15J	aff	del	common nongenetic

8	137757137	137925454	B00B16Y	aff	del	common nongenetic
8	137757137	137925454	B00B17A	aff	del	common nongenetic
8	137757137	137925454	B00B199	aff	del	common nongenetic
8	137757137	137925454	B00B1AB	aff	del	common nongenetic
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8	137757137	137925454	B00B1B3	aff	del	common nongenetic
8	137757137	137925454	B00B1CL	aff	del	common nongenetic
8	137757137	137925454	B00BDJJ	aff	del	common nongenetic
8	137757137	137925454	B00BDK8	aff	del	common nongenetic
8	137757137	137925454	B00BDOD	aff	del	common nongenetic
8	137757137	137925454	B00BDUQ	aff	del	common nongenetic
8	137757137	137925454	B00BE0F	aff	del	common nongenetic
8	137757137	137925454	B00BE0W	aff	del	common nongenetic
8	137757137	137925454	B00BE16	aff	del	common nongenetic
8	137757137	137925454	B00BE3V	aff	del	common nongenetic
8	137757137	137925454	B00BE7E	aff	del	common nongenetic
8	137757137	137925454	B00BE9E	aff	del	common nongenetic
8	137757137	137925454	B00BEDQ	aff	del	common nongenetic
8	137757137	137925454	B00BEFE	aff	del	common nongenetic
8	137757137	137925454	B00BEG3	aff	del	common nongenetic
8	137757137	137925454	B00BEKE	aff	del	common nongenetic
8	137757137	137925454	B00BEL5	aff	del	common nongenetic
8	137757137	137925454	B00BETL	aff	del	common nongenetic
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8	137757137	137925454	B00BEUB	aff	del	common nongenetic

8	137757137	137925454	B00BEUJ	aff	del	common nongenetic
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8	137757137	137925454	B00BQM5	aff	del	common nongenetic
8	137757137	137925454	B00BQN4	aff	del	common nongenetic
8	137757137	137925454	B00BQN7	aff	del	common nongenetic
8	137757137	137925454	B00BQQ6	aff	del	common nongenetic
8	137757137	137932941	B00B15U	aff	del	common nongenetic
8	137757137	137932941	B00BE0Z	aff	del	common nongenetic
8	137757137	137945584	B00ABBB	unaff	del	common nongenetic
8	137789577	137922366	B009EG6	unaff	del	common nongenetic
8	137789577	137923013	B00AABK	unaff	del	common nongenetic
8	137789577	137923013	B00AAGY	unaff	del	common nongenetic
8	137789577	137923013	B00AAHH	unaff	del	common nongenetic
8	137789577	137923013	B00AAJ3	unaff	del	common nongenetic
8	137789577	137923013	B00B0G2	aff	del	common nongenetic
8	137789577	137923013	B00B0RM	aff	del	common nongenetic
8	137789577	137923013	B00BDIS	aff	del	common nongenetic
8	137789577	137923013	B00BDIT	aff	del	common nongenetic
8	137789577	137923013	B00BE0L	aff	del	common nongenetic
8	137789577	137923013	B00BE7F	aff	del	common nongenetic
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8	137789577	137925454	B009FTG	aff	del	common nongenetic
8	137789577	137925454	B009FWY	aff	del	common nongenetic
8	137789577	137925454	B009FZ9	aff	del	common nongenetic
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8	137789577	137925454	B00B0G6	aff	del	common nongenetic
8	137789577	137925454	B00B0JF	aff	del	common nongenetic
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8	137816874	137922366	B00BDRA	aff	del	common nongenetic
8	137821787	137925454	B00BEFA	aff	del	common nongenetic
8	137895996	138336165	B00AB9U	unaff	dup	rare nongenetic
8	138115437	138344749	B00AB5Y	unaff	dup	rare nongenetic
8	139806115	139945608	B009G4G	aff	dup	rare genic
8	144619949	144735442	B00B19X	aff	del	common genic
9	146659	418706	B00BQRF	aff	dup	common genic
9	155539	260422	B00BEJ1	aff	dup	common genic
9	155539	262191	B00B0IB	aff	dup	common genic
9	155539	326186	B00BEV9	aff	dup	common genic
9	195964	348932	B00BEJ0	aff	dup	common genic
9	195964	358128	B00B1AK	aff	dup	common genic
9	234457	388673	B00AB5E	unaff	dup	common genic
9	258740	416215	B00BE1W	aff	dup	common genic
9	287394	721332	B00AAY0	unaff	dup	common genic

9	472282	607501	B00BEBJ	aff	dup	common genic
9	507715	619437	B00BDUJ	aff	dup	common genic
9	510940	922875	B00B0SG	aff	dup	common genic
9	522950	766739	B00BDS6	aff	dup	common genic
9	543248	781067	B00B0QU	aff	dup	common genic
9	794436	952184	B009G2Y	aff	dup	rare genic
9	2939336	3093419	B00BE1O	aff	del	rare nongenic
9	6513056	6648900	B00BDUD	aff	del	rare genic
9	6772225	7007391	B00BQRJ	aff	dup	rare genic
9	7212495	7353648	B00AAA4	unaff	del	rare nongenic
9	8292580	8731389	B00BEK3	aff	dup	rare genic
9	9391487	9546992	B00BETJ	aff	del	common genic
9	9464970	9606646	B009EEI	unaff	del	rare genic
9	9793954	9905186	B00B1AC	aff	del	rare genic
9	11298220	11943279	B00B166	aff	del	common nongenic
9	11349656	11551438	B00B13Y	aff	del	rare nongenic
9	11538253	12032535	B00B0UC	aff	del	common nongenic
9	11596348	11789681	B009G41	aff	del	common nongenic
9	11631257	11840283	B00BEK9	aff	dup	rare nongenic
9	11641144	11925261	B00AAZG	unaff	del	common nongenic
9	11641144	11925261	B00BEW2	aff	del	common nongenic
9	11641144	11925261	B00BQMT	aff	del	common nongenic
9	11704572	11926706	B00B14Z	aff	del	common nongenic
9	11764095	12091436	B00BEVR	aff	del	common nongenic
9	11786468	11975139	B00AB75	unaff	del	common nongenic

9	11815229	12000374	B009EDY	unaff	del	common nongenetic
9	11828399	12061175	B00BEWM	aff	del	common nongenetic
9	11837376	12046279	B00BQQY	aff	del	common nongenetic
9	11877764	12177104	B00AA86	unaff	del	common nongenetic
9	11893938	12025563	B00AB6S	unaff	del	common nongenetic
9	11895556	12177104	B00BEF6	aff	del	common nongenetic
9	11905692	12054543	B00BEVX	aff	del	common nongenetic
9	11919890	12051324	B009FOG	aff	del	common nongenetic
9	11919890	12051324	B00B0WN	aff	del	common nongenetic
9	11919890	12051324	B00BEDB	aff	del	common nongenetic
9	11919890	12086410	B00AAH6	unaff	del	common nongenetic
9	11936421	12075717	B00AA8D	unaff	del	common nongenetic
9	11957114	12155758	B00BQQM	aff	del	common nongenetic
9	11966830	12117088	B00BQNJ	aff	del	common nongenetic
9	11986163	12117088	B00AA8R	unaff	del	common nongenetic
9	11993252	12117088	B00AB8I	unaff	del	common nongenetic
9	11993252	12117088	B00B0PI	aff	del	common nongenetic
9	11993252	12117088	B00BEGV	aff	del	common nongenetic
9	11993252	12117088	B00BEVA	aff	del	common nongenetic
9	11993252	12117088	B00BQMN	aff	del	common nongenetic
9	11993252	12341246	B00B0ZB	aff	del	common nongenetic
9	11997658	12158247	B00B149	aff	del	common nongenetic
9	12015939	12144939	B00AB AQ	unaff	del	common nongenetic
9	12015939	12152866	B00AAGS	unaff	del	common nongenetic
9	12015939	12152866	B00AB4P	unaff	del	common nongenetic

9	12015939	12152866	B00ABAR	unaff	del	common nongenetic
9	12015939	12152866	B00B0JU	aff	del	common nongenetic
9	12015939	12152866	B00B0VM	aff	del	common nongenetic
9	12015939	12152866	B00BE2L	aff	del	common nongenetic
9	12015939	12152866	B00BESJ	aff	del	common nongenetic
9	12015939	12155758	B00BDU1	aff	del	common nongenetic
9	12057914	12177104	B00B0Y9	aff	del	common nongenetic
9	12085022	12257967	B00B0QO	aff	del	common nongenetic
9	14842141	15049821	B00B0L9	aff	del	rare genic
9	18117068	18292439	B00B120	aff	dup	rare nongenetic
9	18741638	18985323	B00BEHD	aff	dup	common genic
9	18919692	19523872	B00AB0M	unaff	dup	rare genic
9	19540467	20645564	B00BQS2	aff	del	rare genic
9	20331734	20597376	B00B11V	aff	dup	rare genic
9	25306440	25408820	B00BQMB	aff	del	rare nongenetic
9	27114745	27224521	B00AB67	unaff	del	rare genic
9	27946578	28148881	B009RKE	unaff	del	rare genic
9	28188623	28332179	B00AA8E	unaff	del	rare genic
9	28188623	28332179	B00B12K	aff	del	common genic
9	28188623	28332179	B00BQPU	aff	del	common genic
9	28344327	28540930	B00B0JH	aff	del	rare genic
9	28532803	28650665	B00B0JO	aff	del	common genic
9	28584913	28751593	B009EH4	unaff	del	common genic
9	28584913	28751593	B009G8Y	aff	del	common genic
9	28584913	28751593	B00AB8I	unaff	del	common genic

9	28584913	28751593	B00B10V	aff	del	common genic
9	28584913	28751593	B00BDIN	aff	del	common genic
9	28584913	28751593	B00BE6B	aff	del	common genic
9	28584913	28751593	B00BEJ1	aff	del	common genic
9	29886950	30058009	B00AA7V	unaff	del	rare nongenic
9	30316115	30705245	B00BEFW	aff	del	rare nongenic
9	30913816	31106343	B00AAZ6	unaff	del	rare nongenic
9	31158918	31563759	B009EDZ	unaff	del	common nongenic
9	31282290	32115244	B00AAFE	unaff	del	common nongenic
9	31282431	32115244	B00AB82	unaff	del	common nongenic
9	31302460	31668988	B00B0QA	aff	del	common nongenic
9	76054586	76228779	B00ABDE	unaff	del	rare nongenic
9	96217647	96386800	B00BDJD	aff	dup	rare genic
9	103869938	104102147	B00AB7N	unaff	del	rare nongenic
9	104757911	105039017	B00BDZP	aff	dup	rare genic
9	115996089	116495996	B00BQQ2	aff	dup	rare genic
9	117501644	117625271	B00AA95	unaff	del	rare nongenic
9	118565469	118681878	B00B0V5	aff	del	rare genic
9	118673789	119055658	B00BEJA	aff	dup	rare genic
9	136608825	136802562	B00BE6V	aff	dup	rare genic
9	137288987	137392698	B009G10	aff	dup	common nongenic
9	137288987	137432359	B00AA8P	unaff	dup	common nongenic
9	137288987	137437985	B00AACM	unaff	dup	common nongenic
9	137288987	137437985	B00B0NS	aff	dup	common nongenic
9	137288987	137445881	B00BE3W	aff	dup	common nongenic

9	137288987	137449867	B009G19	aff	dup	common nongenetic
9	137288987	137449867	B009G94	aff	dup	common nongenetic
9	137288987	137449867	B00B13C	aff	dup	common nongenetic
9	137300158	137419318	B00BE79	aff	dup	common nongenetic
9	137300158	137454076	B00BEEM	aff	dup	common nongenetic
9	137303340	137449867	B00BDTL	aff	dup	common nongenetic
9	137333104	137449867	B00AB5V	unaff	dup	common nongenetic
10	1507243	3496070	B00B0KY	aff	dup	common genetic
10	2078596	2296308	B00BEHN	aff	del	rare nongenetic
10	2239005	2549338	B00BQMX	aff	del	rare genetic
10	2591820	3090437	B00AB54	unaff	dup	common nongenetic
10	6730153	6876693	B00ABAD	unaff	dup	rare genetic
10	6856490	7100192	B00BDTR	aff	del	rare genetic
10	19457187	19864912	B00BEW4	aff	del	rare nongenetic
10	21326367	21705498	B00BEU8	aff	dup	rare genetic
10	25587124	25832715	B00B12O	aff	del	rare genetic
10	36523153	36917060	B00BQOV	aff	dup	common nongenetic
10	36683184	36899882	B009EDA	unaff	dup	rare nongenetic
10	38858706	39029756	B00B0RR	aff	del	rare nongenetic
10	44529447	44679489	B00AAA0	unaff	dup	rare genetic
10	46185880	47241801	B009G00	aff	dup	common genetic
10	46451204	47241801	B00AA70	unaff	dup	common genetic
10	46461598	47241801	B00BE92	aff	dup	common genetic
10	46461598	47241801	B00BEMG	aff	dup	common genetic
10	46461598	47517300	B00B0ZM	aff	dup	common genetic

10	46480602	47227878	B00B006	aff	dup	common genic
10	46572587	47173952	B00B0LO	aff	dup	common genic
10	46777208	47232036	B00BEE7	aff	dup	common genic
10	46811240	47173952	B00BDU9	aff	dup	common genic
10	46811240	47173952	B00BE25	aff	dup	common genic
10	47013328	47173952	B009G2P	aff	dup	common genic
10	47013328	47173952	B00AAFJ	unaff	dup	common genic
10	47013328	47173952	B00AAH1	unaff	dup	common genic
10	47013328	47173952	B00BDUB	aff	dup	common genic
10	47013328	47173952	B00BE0I	aff	dup	common genic
10	47013328	47173952	B00BQSO	aff	dup	common genic
10	47013328	47220485	B00BDGX	aff	dup	common genic
10	47013328	47220485	B00BE21	aff	dup	common genic
10	47013328	47221167	B00AB75	unaff	dup	common genic
10	47013328	47222495	B009G13	aff	dup	common genic
10	47013328	47488045	B00BDT2	aff	dup	common genic
10	47058066	47221167	B00ABDE	unaff	dup	common genic
10	47065283	47173952	B00AB94	unaff	dup	common genic
10	47098898	47241801	B00AA6F	unaff	dup	common genic
10	47920669	48262744	B00BQRD	aff	dup	rare genic
10	49833981	50122742	B00BQRD	aff	dup	rare genic
10	54868713	56401010	B00ABCH	unaff	dup	rare genic
10	54868713	56404174	B009EFC	unaff	dup	rare genic
10	56359184	56729696	B00BE3W	aff	dup	common nongenic
10	56586549	56854523	B00B0VD	aff	del	rare nongenic

10	56586549	56883032	B009FP7	aff	del	rare nongenic
10	57059346	57317002	B00B0VV	aff	dup	rare nongenic
10	57402093	57946551	B00B0JE	aff	dup	rare genic
10	58845146	59059748	B00BE9L	aff	dup	rare nongenic
10	61982455	62705248	B00B15P	aff	dup	rare genic
10	66562233	66757971	B00AAWJ	unaff	dup	rare nongenic
10	67628183	67752490	B00B142	aff	del	rare genic
10	67628183	67752490	B00BEL4	aff	del	rare genic
10	67798620	67999188	B00B0FQ	aff	del	common genic
10	67912678	68156906	B00AAY6	unaff	del	common genic
10	67924088	68118409	B00AB6L	unaff	del	common genic
10	67987089	68100834	B00B0LP	aff	del	common genic
10	68045673	68240316	B00AAA1	unaff	del	common genic
10	68411841	68592248	B00B0EJ	aff	dup	rare genic
10	68411841	68592248	B00B0XV	aff	dup	rare genic
10	68411841	68592248	B00BE0G	aff	dup	rare genic
10	81631178	88728844	B00BQM2	aff	del	rare genic
10	84212260	84394962	B009G26	aff	dup	rare genic
10	84659783	86016182	B00BQNN	aff	del	rare genic
10	86823217	87179215	B00BQQ6	aff	del	rare nongenic
10	87034940	87802563	B00AA6D	unaff	dup	rare genic
10	91560191	92026134	B00BEHD	aff	del	rare genic
10	92088268	92446054	B00BE8Y	aff	dup	rare nongenic
10	124005452	124183171	B009EES	unaff	dup	rare genic
10	126185965	126288175	B00BE9J	aff	del	rare genic

10	132535023	132798458	B00B19Q	aff	dup	rare genic
10	133225079	133375338	B00BEII	aff	del	rare nongenic
10	134041801	134255031	B009G1U	aff	dup	rare genic
10	134496978	134671412	B00BE6R	aff	del	rare genic
10	134496978	134767824	B00BE9F	aff	del	rare genic
10	135092227	135229999	B00AACT	unaff	dup	common genic
10	135092227	135230732	B00AADT	unaff	dup	common genic
10	135094809	135229999	B00B0LA	aff	dup	common genic
10	135116379	135219044	B00AAG6	unaff	dup	common genic
10	135116379	135229924	B009G06	aff	dup	common genic
10	135116379	135229999	B00B0Q4	aff	dup	common genic
10	135116379	135230153	B00AAYD	unaff	dup	common genic
10	135116379	135230732	B00AAGE	unaff	dup	common genic
10	135116379	135230732	B00B0Y4	aff	dup	common genic
10	135129800	135230732	B00BEFV	aff	del	rare genic
10	135156148	135284293	B00BEII	aff	del	rare genic
11	4763448	4865576	B00B0II	aff	del	rare genic
11	4763448	4865576	B00BQL6	aff	del	rare genic
11	5400443	5523065	B00B0XL	aff	del	rare genic
11	32995669	33455044	B00AB5X	unaff	dup	rare genic
11	37046345	37626962	B00BE0C	aff	dup	rare nongenic
11	40236939	40441554	B00B0YJ	aff	del	rare genic
11	40573300	40698945	B00B1BE	aff	del	common nongenic
11	40595756	40701344	B00AAX5	unaff	del	common nongenic
11	50021328	50669978	B00B0W1	aff	dup	rare genic

11	50052490	50669978	B00BDZP	aff	dup	rare genic
11	50288640	50578631	B00BE9L	aff	dup	rare genic
11	50288640	51171349	B00BDMU	aff	dup	rare genic
11	50288640	51212979	B00BDNF	aff	dup	rare genic
11	50288640	51285867	B00BDNX	aff	dup	rare genic
11	51077585	51228612	B00B0J9	aff	dup	rare nongenic
11	54453381	54729430	B00AAHP	unaff	del	rare nongenic
11	63559193	63891874	B00BE9J	aff	del	rare genic
11	63623535	63868504	B00BE6R	aff	del	rare genic
11	80580086	81771147	B00B15H	aff	del	rare genic
11	81070846	81328717	B00BEK5	aff	dup	rare genic
11	81070846	81336393	B00BQO6	aff	dup	rare genic
11	84014299	84465384	B00B0XU	aff	del	common genic
11	84028294	84161040	B00AB8Q	unaff	del	rare genic
11	84943969	85262301	B00BEJO	aff	dup	rare genic
11	85965935	86168228	B009G34	aff	del	rare genic
11	87717127	89079879	B00B158	aff	del	rare genic
11	89657936	89923184	B00AB9V	unaff	del	rare nongenic
11	97225890	97848847	B009FQV	aff	del	rare nongenic
11	100228726	100334730	B009FRG	aff	del	rare genic
11	103481503	103679909	B00AAAI	unaff	del	rare genic
11	104077072	104322127	B00AA75	unaff	del	rare genic
11	126997762	127256729	B00BDS6	aff	del	rare nongenic
11	130366454	130974721	B00BEIJ	aff	dup	rare genic
11	132329581	132769219	B00BQLM	aff	dup	rare genic

11	133854125	134106222	B00AAAE	unaff	dup	common genic
11	133854125	134178906	B009FNV	aff	dup	common genic
11	133854125	134211890	B009G8P	aff	dup	common genic
11	133854125	134226681	B00AABH	unaff	dup	common genic
11	133859037	134056910	B00AAC1	unaff	dup	common genic
11	133859037	134106222	B00BEM0	aff	dup	common genic
11	133859037	134203586	B00B1BP	aff	dup	common genic
11	133859037	134226681	B00ABCC	unaff	dup	common genic
11	133859037	134226681	B00BEJY	aff	dup	common genic
11	133859858	134106222	B009FP4	aff	dup	common genic
11	133859858	134226681	B00B1A2	aff	dup	common genic
11	133861485	134106222	B00BQQA	aff	dup	common genic
11	133900452	134106222	B00B1B1	aff	dup	common nongenic
11	133900452	134239205	B00BE1K	aff	dup	common nongenic
11	133909403	134147842	B00BE4B	aff	dup	common nongenic
11	133909403	134226681	B00B13V	aff	dup	common nongenic
11	133917949	134106222	B00BE7L	aff	dup	common nongenic
11	133922969	134226681	B009RKD	unaff	dup	common nongenic
11	133927963	134226681	B00BET9	aff	dup	common nongenic
11	134006413	134117064	B00BEEW	aff	dup	common nongenic
11	134069023	134211890	B00BEUL	aff	dup	common nongenic
11	134224279	134349020	B00BE9F	aff	dup	common nongenic
12	7544580	7916533	B00B0L7	aff	dup	rare genic
12	7891603	8014573	B00B14A	aff	dup	rare genic
12	20898985	21296099	B00BE4P	aff	del	rare genic

12	24835636	24968472	B00BQS2	aff	dup	rare genic
12	27205351	27680155	B00BEGB	aff	del	rare genic
12	27229452	27680053	B00BE3T	aff	dup	rare genic
12	29050633	29190816	B00B1CR	aff	del	rare nongenic
12	31152226	31293957	B00BDJ5	aff	dup	rare nongenic
12	31152226	31298174	B00B1AD	aff	dup	rare nongenic
12	33415349	33874675	B00BELP	aff	dup	rare genic
12	33415349	34099685	B009FUJ	aff	dup	rare genic
12	33415349	34194376	B00BE1P	aff	dup	rare genic
12	33415349	34194376	B00BE97	aff	dup	rare genic
12	33415349	34249752	B00B0U5	aff	dup	common genic
12	33415349	34693609	B00B19L	aff	dup	common genic
12	33415349	34693609	B00BEFU	aff	dup	common genic
12	33422705	34565140	B00BEBE	aff	dup	common genic
12	33450791	34603463	B00B0ZR	aff	dup	common genic
12	33530062	33892253	B00B0J8	aff	dup	rare nongenic
12	34248290	34747647	B00AA7J	unaff	dup	common nongenic
12	36270798	36718276	B00BDNX	aff	dup	rare nongenic
12	38947548	39153600	B00AA5M	unaff	dup	rare genic
12	40525442	41116770	B00B0LD	aff	dup	rare genic
12	42641064	43834285	B00BQOB	aff	del	rare genic
12	43024722	43537377	B00BEE0	aff	dup	rare genic
12	53595383	54450001	B009G71	aff	dup	rare genic
12	66264915	66482939	B00AB7F	unaff	dup	rare genic
12	72680307	76001631	B00B0WQ	aff	del	rare genic

12	76463828	76670293	B009GBC	aff	del	rare nongenic
12	82566240	82974955	B00B0KL	aff	dup	rare nongenic
12	84949739	85271857	B00B1AY	aff	del	rare genic
12	114737218	115007688	B00B13W	aff	dup	rare genic
12	125966298	126160067	B009G71	aff	dup	rare nongenic
12	126151300	126355359	B00AB5J	unaff	dup	rare nongenic
12	127407050	128922645	B00AAZE	unaff	dup	rare genic
12	127731004	127870322	B00AB1H	unaff	dup	rare genic
12	129096937	129772302	B00BEGH	aff	dup	rare genic
12	131262677	131500463	B00BDNX	aff	dup	rare genic
12	131322055	131579967	B00B15U	aff	dup	rare genic
13	19699273	19986717	B009EDK	unaff	del	rare genic
13	19710563	19903776	B00AB9U	unaff	del	rare genic
13	19722043	19993720	B009EG0	unaff	del	rare genic
13	20510791	20776779	B00BDL6	aff	dup	rare genic
13	22466143	23813555	B00BDMC	aff	del	rare genic
13	54037598	61600894	B00BEUD	aff	del	rare genic
13	54690941	55434151	B00AAAN	unaff	del	rare nongenic
13	56141184	56470779	B00BE1P	aff	dup	rare nongenic
13	63251062	64233887	B00BQQT	aff	dup	rare nongenic
13	63330923	63834244	B00B0X7	aff	del	rare nongenic
13	63330923	63834244	B00B0ZN	aff	del	rare nongenic
13	68680362	69362235	B00BET7	aff	del	rare genic
13	69735856	69870784	B009FN1	aff	del	rare nongenic
13	72100371	73111539	B00BDZT	aff	dup	rare genic

13	90843580	91359715	B00B0X3	aff	dup	rare genic
13	90859879	91093338	B00BDYW	aff	del	rare genic
13	93779554	94517495	B00BEIB	aff	dup	rare genic
13	94870264	95099129	B00B12N	aff	dup	rare genic
13	100320971	100435410	B00BE1R	aff	del	rare nongenic
13	113571085	113861908	B00BE6R	aff	del	rare genic
14	18471281	18719523	B009G7W	aff	dup	rare genic
14	18498048	18632978	B00BEKY	aff	dup	rare genic
14	18501168	18825515	B00BE2P	aff	dup	common genic
14	18506200	19083623	B00BDLJ	aff	dup	common genic
14	18506200	19101771	B00B11D	aff	dup	common genic
14	18684568	19502504	B00AAAYE	unaff	dup	common genic
14	19175741	19491534	B00BEEK	aff	dup	common genic
14	19179369	19494347	B00BDIN	aff	dup	common genic
14	19283777	19488485	B00AAFJ	unaff	dup	common genic
14	19283777	19491534	B00BEFJ	aff	dup	common genic
14	19283777	19494347	B009FRS	aff	dup	common genic
14	19283777	19494347	B00AA6P	unaff	dup	common genic
14	19283777	19494347	B00AB5O	unaff	dup	common genic
14	19283777	19494347	B00B0VJ	aff	dup	common genic
14	19283777	19494347	B00BDS9	aff	dup	common genic
14	19283777	19494347	B00BDV5	aff	dup	common genic
14	19283777	19494347	B00BQOE	aff	dup	common genic
14	19283777	19494891	B00BEUT	aff	dup	common genic
14	19375271	19494891	B00ABBB	unaff	dup	common genic

14	19946093	20178749	B00B1B2	aff	dup	rare genic
14	21676444	21788239	B00BE33	aff	del	rare nongenic
14	21764766	21866158	B00BEMW	aff	del	rare nongenic
14	21834952	21949578	B00B0V4	aff	del	rare nongenic
14	21838610	21949578	B00B1C4	aff	del	rare nongenic
14	21842503	21949578	B009G7O	aff	del	rare nongenic
14	27165663	27292951	B00AAJ	unaff	dup	rare genic
14	39027188	39277773	B00AA7B	unaff	del	common nongenic
14	39049504	39234020	B00B18V	aff	del	common nongenic
14	39881425	41953089	B00B0WR	aff	dup	rare genic
14	40973264	41395425	B00BDZF	aff	del	rare genic
14	42298099	44240696	B009EFO	unaff	dup	common genic
14	42671419	43218387	B00AAAD	unaff	dup	common nongenic
14	42892349	43317491	B00AACT	unaff	dup	common nongenic
14	42892349	43317491	B00AB9V	unaff	dup	common nongenic
14	42892349	43317491	B00BQO3	aff	dup	common nongenic
14	42897456	43317491	B00AA7C	unaff	dup	common nongenic
14	42897456	43317491	B00B14G	aff	dup	common nongenic
14	42897456	43320843	B009G4M	aff	dup	common nongenic
14	42897456	43320843	B00B15E	aff	dup	common nongenic
14	42897456	43320843	B00BEKP	aff	dup	common nongenic
14	43700245	44240696	B009EFO	unaff	del	rare genic
14	46027672	46306014	B00BOP6	aff	del	rare genic
14	46040054	46826337	B00BE3E	aff	dup	rare genic
14	75905710	76088888	B00BE8E	aff	dup	rare genic

14	86938281	87258639	B00B0RP	aff	dup	rare nongenetic
14	105762823	105874604	B00B0LD	aff	del	common genic
14	105776041	105878201	B00AA7U	unaff	del	common genic
15	18461479	18832088	B00B111	aff	dup	common genic
15	18461479	19374161	B00BDRP	aff	dup	common genic
15	18461479	19425999	B00BQNB	aff	dup	common genic
15	18461479	20096959	B00BQNM	aff	dup	common genic
15	18486021	21065954	B009FZI	aff	dup	common genic
15	18502460	20032783	B00BEW4	aff	dup	common genic
15	18653658	20096959	B00ABEG	unaff	del	common genic
15	18665968	18893274	B00AA5L	unaff	dup	common genic
15	18665968	20635884	B00AAIY	unaff	dup	common genic
15	18693443	19466775	B009FZI	aff	dup	common genic
15	18703266	19365466	B00BQQD	aff	dup	common genic
15	18756416	18893274	B00AAJO	unaff	dup	common genic
15	18802207	21065954	B00BE3D	aff	del	common genic
15	18805676	19205998	B00B0HD	aff	dup	common genic
15	18809823	19525130	B00BE7M	aff	dup	common genic
15	18816070	20096959	B00BQNC	aff	dup	common genic
15	18818086	19300575	B00BDH4	aff	del	common genic
15	18820706	19228416	B00AAXL	unaff	del	common genic
15	18822301	19525130	B00BELR	aff	dup	common genic
15	18835861	20032783	B00BE0C	aff	dup	common genic
15	18837563	20635884	B00BE8M	aff	del	common genic
15	18844407	19193121	B00BEGD	aff	del	common genic

15	18844407	19228416	B00B15D	aff	del	common genic
15	18844407	19266749	B009G20	aff	del	common genic
15	18844407	19365466	B00AB7L	unaff	del	common genic
15	18844407	19365466	B00B0G6	aff	del	common genic
15	18844407	19374161	B00AB53	unaff	del	common genic
15	18844407	19463126	B009G8Y	aff	del	common genic
15	18844407	19463126	B00BE41	aff	del	common genic
15	18844407	19489173	B009FU7	aff	del	common genic
15	18844407	19489173	B00BQQS	aff	del	common genic
15	18844407	19494067	B00BEHJ	aff	del	common genic
15	18844407	19494067	B00BQLU	aff	del	common genic
15	18844407	19494732	B00BE5F	aff	del	common genic
15	18844407	19519922	B00BEJA	aff	del	common genic
15	18844407	19524118	B00BQQ8	aff	del	common genic
15	18844407	20096959	B00AAWW	unaff	del	common genic
15	18846305	19205998	B00B0F8	aff	del	common genic
15	18846305	19216443	B00AA8T	unaff	del	common genic
15	18846305	19365466	B00B0ID	aff	del	common genic
15	18883470	19524118	B00BEBZ	aff	del	common genic
15	19190969	20008195	B00AAJS	unaff	dup	common genic
15	19190969	20317047	B009G6P	aff	dup	common genic
15	19294091	20096959	B00B0LZ	aff	dup	common genic
15	19501536	20096959	B00BECH	aff	dup	common genic
15	19767013	19884899	B00AAV4	unaff	del	common genic
15	19767013	20041666	B00BDK0	aff	dup	common genic

15	19767013	20096959	B00B10G	aff	dup	common genic
15	19767013	20096959	B00B17P	aff	dup	common genic
15	19767013	20096959	B00BEG4	aff	dup	common genic
15	19767013	20096959	B00BEIN	aff	dup	common genic
15	19772657	20032783	B00B1B8	aff	dup	common genic
15	19772657	20092831	B00BEGT	aff	dup	common genic
15	19772657	20096959	B00BQNN	aff	dup	common genic
15	19776596	20049770	B00AA5L	unaff	dup	common genic
15	19776596	20079981	B00BE0G	aff	dup	common genic
15	19776596	20079981	B00BEFI	aff	dup	common genic
15	19776596	20096959	B009EBY	unaff	dup	common genic
15	19784528	20096959	B009EDV	unaff	dup	common genic
15	19791742	20096959	B00BDS5	aff	dup	common genic
15	19795240	20096959	B00B0WR	aff	dup	common genic
15	19795240	20300462	B00BQQD	aff	dup	common genic
15	19798349	20096959	B00B0SS	aff	dup	common genic
15	19798349	20096959	B00B0ZY	aff	dup	common genic
15	19798947	20093718	B00B0QP	aff	del	common genic
15	19799155	20090401	B00B192	aff	dup	common genic
15	19800360	20096959	B00AAJO	unaff	dup	common genic
15	19800883	20092831	B00BE2F	aff	dup	common genic
15	19800883	20096959	B00B0XT	aff	dup	common genic
15	19821672	20096959	B00BQS1	aff	dup	common genic
15	19845386	20093718	B00B0LW	aff	dup	common genic
15	19858018	20096959	B00B0OZ	aff	del	common genic

15	19860145	20096959	B00B19E	aff	dup	common genic
15	19864664	20096959	B00BDIE	aff	dup	common genic
15	19871292	20079981	B00B11O	aff	dup	common genic
15	19874650	20090575	B00BEL5	aff	dup	common genic
15	19874650	20096959	B00BQRB	aff	dup	common genic
15	19877729	20084212	B00B126	aff	del	common genic
15	19879123	20096959	B00B0V5	aff	dup	common genic
15	19881409	20094603	B00AA9U	unaff	dup	common genic
15	19881409	20096959	B00BE8W	aff	dup	common genic
15	19881981	20096959	B009FZU	aff	dup	common genic
15	19883167	20096959	B00BELK	aff	dup	common genic
15	19883167	20249841	B00BESD	aff	dup	common genic
15	19950423	20096959	B00AAXZ	unaff	dup	common genic
15	19950423	20096959	B00AAYA	unaff	dup	common genic
15	19950423	20096959	B00BELU	aff	dup	common genic
15	19950423	20096959	B00BQNB	aff	dup	common genic
15	19951198	20093718	B00AA95	unaff	dup	common genic
15	19951198	20096959	B00B14Y	aff	dup	common genic
15	19951198	20096959	B00BQMZ	aff	dup	common genic
15	19953375	20096959	B00AAXI	unaff	del	common genic
15	19957667	20096959	B00BDK8	aff	dup	common genic
15	19958555	20096959	B00AB1Z	unaff	del	common genic
15	19982306	20096959	B00B10K	aff	dup	common genic
15	20303106	20635884	B00BDI4	aff	del	rare genic
15	20306549	20635884	B00AACT	unaff	dup	common genic

15	20314760	20635884	B00B0S4	aff	del	rare genic
15	20314760	20635884	B00BDZI	aff	del	rare genic
15	20314760	20635884	B00BEW1	aff	del	rare genic
15	20321135	20618177	B00BQO9	aff	del	rare genic
15	20384417	20614243	B00B0NT	aff	dup	common genic
15	20384417	20635884	B00BE6E	aff	del	rare genic
15	20384417	20635884	B00BEDB	aff	del	rare genic
15	20384417	20635884	B00BEG0	aff	del	rare genic
15	20388584	20618177	B00BQN2	aff	del	rare genic
15	20388584	20629449	B00BEF1	aff	del	rare genic
15	20388584	20667673	B00B101	aff	dup	common genic
15	20391412	20635884	B00BE79	aff	dup	common genic
15	20401830	20605280	B00BE1O	aff	dup	common genic
15	20401830	20618177	B00BEAA	aff	dup	common genic
15	21905523	22048665	B009FZ9	aff	del	rare genic
15	22134751	22296944	B00AAA7	unaff	dup	common nongenic
15	22134751	22296944	B00BET9	aff	dup	common nongenic
15	28705181	29403966	B00BDV0	aff	dup	common genic
15	28723577	29234640	B00BQQV	aff	dup	common genic
15	28750810	30233069	B009GB2	aff	dup	common genic
15	28797383	30231488	B00BEKY	aff	del	rare genic
15	28797383	30234454	B00AA7W	unaff	dup	common genic
15	28816548	30231488	B00BE1P	aff	del	rare genic
15	29807358	30189338	B009G5V	aff	dup	common genic
15	29807358	30231488	B009FW4	aff	dup	common genic

15	29807358	30231488	B00BEIU	aff	del	rare genic
15	29807358	30234454	B00AB8M	unaff	dup	common genic
15	29807358	30239240	B009EEV	unaff	dup	common genic
15	29807358	30239240	B009RKC	unaff	dup	common genic
15	29807358	30400921	B00B0RJ	aff	dup	common genic
15	29807358	30417617	B00AAVB	unaff	dup	common genic
15	29816096	30233069	B009FUJ	aff	dup	common genic
15	29863575	30234454	B009RL7	unaff	dup	common genic
15	29870041	30319628	B00BDZF	aff	dup	common genic
15	29883814	30286980	B009FNA	aff	dup	common genic
15	29949527	30234454	B00AB5Z	unaff	dup	common genic
15	29960537	30231488	B00BE1D	aff	dup	common genic
15	29960537	30239240	B00AABT	unaff	dup	common genic
15	29960537	30239240	B00BDHM	aff	dup	common genic
15	30699032	31100290	B00BE3P	aff	dup	rare genic
15	30706958	32602161	B00B0R8	aff	dup	rare genic
15	30711941	32363040	B00B130	aff	dup	rare genic
15	32492447	32606319	B00B11M	aff	del	rare genic
15	34236247	34488568	B00BE1Q	aff	dup	rare nongenic
15	47492033	49245394	B00B168	aff	del	rare genic
15	55431559	55555363	B00ABA3	unaff	dup	rare genic
15	55431559	55563118	B00BQQ6	aff	dup	common genic
15	55432269	55621184	B00B10O	aff	dup	common genic
15	55435304	55563118	B00BE16	aff	dup	common genic
15	81011209	82625167	B00B0RL	aff	del	rare genic

15	83626571	83950163	B00BQO6	aff	dup	rare genic
15	83714794	83944508	B00B0IN	aff	dup	rare genic
15	90919508	91913285	B00BE88	aff	dup	rare genic
15	93438153	94211693	B00BE21	aff	del	rare genic
15	99846751	99983326	B00BEV4	aff	dup	rare genic
16	6499063	7132653	B00AAHG	unaff	del	common genic
16	6545214	6653778	B00BEIC	aff	del	common genic
16	6646253	7034208	B00B0IF	aff	del	common genic
16	15192528	16197033	B00B10P	aff	del	rare genic
16	15192528	16197033	B00BE4C	aff	dup	rare genic
16	15192528	16197033	B00BEJY	aff	dup	rare genic
16	15387380	16165674	B00B1AT	aff	dup	candidate
16	15387380	16197033	B00BEVJ	aff	dup	rare genic
16	17291625	17789520	B00B1AT	aff	dup	rare genic
16	17391397	18174650	B00B0HI	aff	dup	rare genic
16	21856623	22331199	B009FOS	aff	del	rare genic
16	23841800	24110116	B00BE24	aff	del	rare genic
16	31009822	31139990	B00BE2Q	aff	del	rare genic
16	31947437	33235239	B00BEHD	aff	dup	rare genic
16	32380006	32805913	B00B0M4	aff	dup	rare genic
16	32380006	33195302	B00B12Z	aff	dup	rare genic
16	33273782	33539035	B00B12T	aff	del	common nongenic
16	33273782	33539167	B00B0UN	aff	del	common nongenic
16	33278985	33539167	B00B0EY	aff	del	common nongenic
16	33394311	33539167	B009EFU	unaff	del	common nongenic

16	33394311	33539167	B009EG1	unaff	del	common nongenetic
16	33394311	33539167	B009RKV	unaff	del	common nongenetic
16	33394311	33539167	B00B0UD	aff	del	common nongenetic
16	33394311	33539167	B00B106	aff	del	common nongenetic
16	33394311	33539167	B00BE1N	aff	del	common nongenetic
16	33394311	33539167	B00BE3V	aff	del	common nongenetic
16	33394311	33539167	B00BEHH	aff	del	common nongenetic
16	33394311	33539167	B00BQQ1	aff	del	common nongenetic
16	33394311	33564984	B00B0J5	aff	del	common nongenetic
16	33394311	33572169	B00B0P8	aff	del	common nongenetic
16	58464932	58785629	B00B0I4	aff	dup	rare nongenetic
16	68621490	68759936	B00AA94	unaff	del	rare genic
16	76841262	78030355	B00AB52	unaff	dup	rare genic
16	76849354	77164850	B00BE5I	aff	del	rare genic
16	77606842	77795260	B00BEGZ	aff	del	rare genic
16	77908301	78158277	B00BEGZ	aff	del	rare nongenetic
16	83053555	83170906	B00B14U	aff	del	rare genic
16	87127381	87390089	B00BEG6	aff	del	rare genic
16	88363824	88499917	B00BDJE	aff	del	rare genic
16	88397262	88551703	B00B179	aff	del	rare genic
16	88423924	88612062	B00BDJ7	aff	del	rare genic
17	5091377	5790081	B00BQL3	aff	dup	rare genic
17	5531668	5954900	B009G3V	aff	del	rare genic
17	9277095	9548288	B00B0LX	aff	dup	common genic
17	9295229	10024100	B009EF0	unaff	dup	common genic

17	9934287	10322546	B00AAXQ	unaff	dup	rare genic
17	14040467	15292994	B00AABJ	unaff	del	rare genic
17	14063278	15411904	B009EBL	unaff	del	rare genic
17	31889664	33319881	B00BEJV	aff	dup	rare genic
17	31893304	33319881	B009G3J	aff	dup	rare genic
17	36465485	36596245	B00BDI4	aff	del	rare genic
17	36465485	36596245	B00BDJ8	aff	del	rare genic
17	36465485	36596245	B00BE6R	aff	del	rare genic
17	36465485	36596245	B00BE99	aff	del	rare genic
17	36465485	36600044	B00B16R	aff	del	rare genic
17	36465485	36600822	B00BE00	aff	del	rare genic
17	41525626	41710445	B00AB29	unaff	dup	rare genic
17	41525626	41981953	B00BEML	aff	dup	common genic
17	47932943	48190536	B009EFM	unaff	del	rare nongenic
17	48306578	48668964	B009G0I	aff	del	rare nongenic
17	48306578	48668964	B00B0K3	aff	del	rare nongenic
17	64172422	64556563	B00B1BD	aff	dup	rare genic
17	69345596	69595387	B00AA7C	unaff	dup	common nongenic
17	69345596	69936754	B00BE5W	aff	dup	common genic
17	69345596	70125184	B00AA5L	unaff	dup	common genic
17	69345596	70164827	B00AAY0	unaff	dup	common genic
17	69345596	70164827	B00B0KJ	aff	dup	common genic
17	69345596	70164827	B00BDJB	aff	dup	common genic
17	69345596	70193536	B00AADW	unaff	dup	common genic
17	69349814	69885849	B009FO1	aff	dup	common genic

18	321506	768384	B00BEJT	aff	dup	rare genic
18	362837	627631	B00B0K7	aff	dup	rare genic
18	1410484	1608782	B00AAJ6	unaff	dup	rare nongenic
18	1721154	1828901	B00B0HU	aff	del	common nongenic
18	1721154	1828901	B00BDTR	aff	del	common nongenic
18	1721154	1828901	B00BE0T	aff	del	common nongenic
18	1721154	1829564	B009G3M	aff	del	common nongenic
18	1721154	1829564	B009RLA	unaff	del	common nongenic
18	1721154	1829564	B00AAC2	unaff	del	common nongenic
18	1721154	1829564	B00B0J0	aff	del	common nongenic
18	1721154	1829564	B00B0ZK	aff	del	common nongenic
18	1721154	1829564	B00B11L	aff	del	common nongenic
18	1721154	1829564	B00B12O	aff	del	common nongenic
18	1721154	1829564	B00BEGZ	aff	del	common nongenic
18	1721154	1829564	B00BEIN	aff	del	common nongenic
18	1721154	1829564	B00BEM5	aff	del	common nongenic
18	1721154	1829564	B00BEVQ	aff	del	common nongenic
18	6916688	8075047	B00AB75	unaff	dup	rare genic
18	11552631	12106280	B00B1BP	aff	dup	rare genic
18	23583202	24244622	B00BETY	aff	del	rare genic
18	25484590	25686682	B00AA9A	unaff	del	rare nongenic
18	32172476	32915958	B00B128	aff	del	rare genic
18	55838553	55987860	B00B0P9	aff	del	rare nongenic
18	55987860	56146902	B00AA7B	unaff	del	rare nongenic
18	61036648	63031278	B00BE6E	aff	dup	rare genic

18	62142318	62545066	B00B0KF	aff	dup	rare genic
18	62961829	63363992	B009EDB	unaff	dup	rare genic
18	63049283	64344824	B00BEVH	aff	del	common genic
18	63076154	64412509	B009RL5	unaff	del	common genic
18	63216868	63596654	B009FQM	aff	del	common genic
18	63216868	63596654	B00B0K3	aff	del	common genic
18	63843275	64353633	B00BE79	aff	dup	common nongenic
18	63843275	64668279	B009EC1	unaff	dup	rare genic
18	67052669	67587053	B00AABH	unaff	del	rare genic
18	67351832	67470359	B00BEH9	aff	del	common genic
18	69487787	70765301	B00ABDE	unaff	dup	rare genic
18	73264159	74672711	B00B0ZM	aff	dup	rare nongenic
18	73514135	74227455	B00BE2T	aff	del	rare nongenic
18	75224938	75333697	B00B17B	aff	del	rare genic
18	75238190	75378707	B00BE6R	aff	del	rare genic
19	750770	878971	B00B16Y	aff	del	rare genic
19	15448185	15634915	B00B0YQ	aff	dup	rare genic
19	33567841	34304195	B00B1AE	aff	del	rare genic
19	44824665	45002337	B00B0X1	aff	del	rare genic
19	48013905	48415842	B00B0YA	aff	del	rare genic
19	56979264	57299577	B00BQR7	aff	dup	rare genic
19	57959318	58187145	B00AAE2	unaff	del	rare genic
19	58859082	59605946	B00B0QH	aff	dup	rare genic
19	59418963	59567135	B00AAVB	unaff	dup	rare genic
20	8044130	8523671	B00BEG9	aff	dup	rare genic

20	11706999	12185727	B00BDK2	aff	dup	rare genic
20	14598357	14812888	B00B0WZ	aff	del	common genic
20	14629863	14802935	B00BE2D	aff	del	common genic
20	14657451	14778453	B00AA91	unaff	del	rare genic
20	14685843	14788502	B00BQLV	aff	del	common genic
20	14709710	14991203	B00B147	aff	del	common genic
20	14720789	14940542	B00BQOV	aff	del	common genic
20	14762090	15021680	B00BQNF	aff	del	common genic
20	14763778	15061008	B00AB6E	unaff	del	common genic
20	14785965	15021680	B00B0ZO	aff	del	common genic
20	14796659	15068744	B00ABCF	unaff	del	common genic
20	14858258	15143572	B00B0UH	aff	del	common genic
20	14859003	15091185	B009FVA	aff	del	common genic
20	14940542	15061008	B00B0L7	aff	del	common genic
20	15361299	15485498	B00B0I6	aff	del	rare genic
20	16645465	17227522	B00BE5M	aff	dup	rare genic
20	44520617	44666440	B00AA9Y	unaff	dup	rare genic
20	49540120	49894738	B009G0X	aff	dup	rare genic
20	49552249	50485779	B00BE74	aff	dup	rare genic
20	51371913	51989830	B00BE74	aff	dup	rare genic
20	60308367	60758172	B00B17B	aff	del	rare genic
20	61029220	61189376	B00BE2X	aff	del	rare genic
20	61795777	61944148	B00B0S6	aff	dup	rare genic
21	22969567	23285179	B00BEVB	aff	del	rare nongenic
21	23255492	23409950	B00B0ZL	aff	del	rare nongenic

21	27097629	27851829	B00BEF3	aff	del	rare genic
21	35841755	36391146	B00BE07	aff	dup	common genic
21	35847942	36391146	B009EH5	unaff	dup	rare genic
21	39163152	41391114	B00BE1I	aff	dup	rare genic
21	44657340	44934972	B00BE6R	aff	del	rare genic
22	14899946	15230437	B00B193	aff	dup	rare nongenic
22	14899946	15230437	B00BDN8	aff	dup	rare nongenic
22	14906376	15230437	B00B18S	aff	dup	rare nongenic
22	15434720	15832966	B00ABAF	unaff	dup	rare genic
22	15447504	15661931	B00AB23	unaff	dup	rare genic
22	15447504	15832966	B00AB5J	unaff	dup	rare genic
22	15608796	15832966	B00AA8Y	unaff	dup	rare genic
22	15608796	15842185	B00AAH6	unaff	dup	rare genic
22	15634399	15842185	B009EH8	unaff	dup	rare genic
22	15774989	16104093	B00BECQ	aff	del	rare genic
22	17263687	17392855	B00BE1M	aff	del	rare genic
22	17281004	17393629	B00BQR5	aff	dup	rare genic
22	19073536	19792353	B00BEJC	aff	del	rare genic
22	19795780	20024533	B009G71	aff	dup	rare genic
22	20022108	21905642	B00BE7D	aff	del	rare genic
22	20638883	20903637	B00BDZ8	aff	dup	common genic
22	20638883	20910314	B00AB4I	unaff	dup	common genic
22	20641326	20892874	B00AB7G	unaff	dup	common genic
22	20641326	20903637	B00B0MB	aff	dup	common genic
22	20641567	20903637	B00AACT	unaff	del	common genic

22	20642383	20903637	B00AACC	unaff	del	common genic
22	20642383	20903637	B00B15I	aff	del	common genic
22	20642568	20903637	B00AAJK	unaff	dup	common genic
22	20642568	20910314	B00B1CM	aff	dup	common genic
22	20645312	20830272	B00AB7F	unaff	dup	common genic
22	20645312	20901854	B00BQP9	aff	dup	common genic
22	20645312	20903637	B009FPG	aff	del	common genic
22	20645312	20903637	B00B0D1	aff	dup	common genic
22	20658391	20903637	B00AAGZ	unaff	dup	common genic
22	20658391	20903637	B00ABBJ	unaff	dup	common genic
22	20679088	20847479	B00B0CY	aff	del	common nongenic
22	20679088	20847673	B00B0JD	aff	del	common nongenic
22	20679088	20847826	B00AB6E	unaff	del	common nongenic
22	20724227	20901854	B00AB6C	unaff	dup	common nongenic
22	20724227	20901854	B00AB9N	unaff	dup	common nongenic
22	20725035	20903637	B009FW7	aff	dup	common nongenic
22	20756901	20871057	B00B0XT	aff	dup	common nongenic
22	20756901	20880884	B00B16X	aff	dup	common nongenic
22	20766162	20903637	B00BE8R	aff	dup	common nongenic
22	23994408	24230823	B00B0UD	aff	del	rare genic
22	23994408	24230823	B00B128	aff	del	rare genic
22	23994408	24230823	B00BDKN	aff	del	rare genic
22	23994408	24230823	B00BDZ9	aff	del	rare genic
22	23994408	24230823	B00BE1M	aff	del	rare genic
22	23994408	24235668	B00BDS9	aff	del	rare genic

22	23994408	24240667	B009FQV	aff	del	rare genic
22	23994408	24240667	B009G57	aff	del	rare genic
22	23994408	24240667	B009G7K	aff	del	rare genic
22	23994408	24240667	B00BQPO	aff	dup	common genic
22	23994408	24240667	B00BQR9	aff	del	rare genic
22	24016040	24257716	B00AB75	unaff	dup	common genic
22	24017514	24240667	B009G8J	aff	del	rare genic
22	24056992	24240667	B00BDUD	aff	dup	common genic
22	31789131	31977908	B00B0IH	aff	del	rare nongenic
22	44801602	44911445	B00B17A	aff	del	rare genic
22	47531306	47981564	B00AAHN	unaff	dup	rare genic
22	47776066	48154681	B00AA7T	unaff	dup	rare nongenic
22	47776066	48163738	B00BEL9	aff	dup	common nongenic
22	47776066	48354724	B00AACD	unaff	dup	rare nongenic
22	47897487	48154681	B00BQQT	aff	dup	common nongenic