Supporting Tables

Table S1. The genic CNV groups identified CNVnet that differentiate CEU from non-CEU, the overlapping Ensembl and Refseq genes, the p-values, r-values, F_{st} scores, and the sums of phastcons44way scores.

Group	Genic CNV	Ensembl gene	Refseq gene	p-value	r-value	Fst	Phastcons44way sum score
1	chr12:1734273-1734587	ENSG00000006831	ADIPOR2	0.007	-0.43	0.504	219.99
	chr2:242154777-242156007	ENSG00000176720	BOK		0.23	0.327	257.821
	chr5:112505727-112506265	ENSG00000171444	MCC		-0.22	0.067	95.867
	chr5:112694735-112700215	ENSG00000171444	MCC		0.089	0	360.154
	chr1:179016392-179022016	ENSG00000143324	XPR1		-0.22	0.067	479.722
2	chr12:6777645-6777900	ENSG00000010610	CD4	0.002	-0.42	0.406	47.701
	chr2:216866592-216866972	ENSG00000144583	MARCH4		-0.409	0.4	425.569
3	chr17:9005941-9006057	ENSG00000065320	NTN1	0.037	-0.326	0.216	41.301
	chr4:96601478-96601683	ENSG00000182168	UNC5C		0.284	0.277	22.035
	chr4:96620089-96620483	ENSG00000182168	UNC5C		0.073	0	170.431
4	chr10:33532647-33532935	ENSG00000099250	NRP1	0.203	0.073	0.287	377.15
	chr7:80316526-80316710	ENSG00000075223	SEMA3C		0.116	0	154.562
5	chr7:75502568-75505743	ENSG00000127952	STYXL1	0.069	-0.366	0.241	133.991
	chr7:75505947-75506596	ENSG00000127952	STYXL1		0.116	0	38.606
	chr2:152231858-152231947	ENSG00000183091	NEB		-0.128	0.085	33.484
6	chr9:36352882-36354079	ENSG00000137075	RNF38	0.103	-0.382	0.665	160.929
	chr3:47465672-47468444	ENSG00000114650	SCAP		-0.037	0.51	380.61
	chr4:119463162-119466525	ENSG00000164099	PRSS12		-0.179	0.039	190.176
7	chr4:123462021-123462145	ENSG00000138688	KIAA1109	<0.001	-0.019	0.084	237.541
	chr3:192547380-192554361	ENSG00000152492	CCDC50		-0.619	0.564	244.574
	chr3:192547712-192551630	ENSG00000152492	CCDC50		-0.619	0.564	184.755
	chr3:192552252-192554450	ENSG00000152492	CCDC50		-0.634	0.578	59.819
8	chr15:74671612-74673430	ENSG00000140386	SCAPER	0.045	-0.452	0.502	420.239
	chr15:74671652-74683993	ENSG00000140386	SCAPER		-0.427	0.468	2442.521
	chr15:74677967-74682525	ENSG00000140386	SCAPER		-0.427	0.468	895.306
	chr5:126699607-126699670	ENSG00000145794	MEGF10		0.086	0.024	42.897
9	chr2:216866592-216866972	ENSG00000144583	MARCH4	<0.001	-0.409	0.4	425.569
	chr12:6777645-6777900	ENSG00000010610	CD4		-0.42	0.406	47.701
	chr15:23482491-23483470	ENSG00000206190	ATP10A		0.447	0.622	132.629
	chr15:23483812-23483877	ENSG00000206190	ATP10A		0.038	0.02	123.733
10	chr7:2795297-2795627	ENSG00000146535	GNA12	<0.001	-0.17	0.039	4.917
	chr15:83750610-83755243	ENSG00000170776	AKAP13		0.127	0	258.914
	chr15:83858012-83860202	ENSG00000170776	AKAP13		0.163	0.188	81.636
	chr15:83903890-83903984	ENSG00000170776	AKAP13		0.408	0.134	446.118
	chr6:152431683-152433926	ENSG00000091831	ESR1		0.465	0.23	258.929
	chr6:126224758-126229050	ENSG00000111912	NCOA7		0.316	0.268	134.549
11	chr20:30791024-30791695	ENSG00000149600	COMMD7	0.143	0.201	0.036	118.253
	chr2:62203864-62204657	ENSG00000173163	COMMD1		0.051	0	196.843
12	chr5:82518513-82518818	ENSG00000152422	XRCC4	0.127	-0.208	0.511	46.832
	chr2:68563584-68569736	ENSG00000169621	APLF		0.051	0	542.145
13	chr16:84339154-84339294	ENSG00000154102	C16orf74	<0.001	-0.608	0.602	44.329
	chr4:102179177-102180210	ENSG00000138814	PPP3CA		-0.169	0.145	62.71
	chr1:201950932-201952854	ENSG00000058668	ATP2B4		0.215	0.066	114.943
	chr3:198418971-198423652	ENSG00000075711	DLG1		-0.363	0.338	1054.866
	chr10:89642804-89643702	ENSG00000171862	PTEN		-0.255	0.094	227.035
	chr1:241849369-241850386	ENSG00000117020	AKT3		-0.531	0.614	158.503
	chr17:52845701-52846506	ENSG00000153944	MSI2		0.073	0	109.438
	chr17:53042809-53044913	ENSG00000153944	MSI2		-0.261	0.613	260.089
14	chr16:76729167-76729845	ENSG00000186153	WWOX	0.004	-0.207	0.096	209.107
	chr16:76929112-76931230	ENSG00000186153	WWOX		-0.408	0.45	114.973
	chr16:76929140-76942399	ENSG00000186153	WWOX		-0.43	0.46	761.517
	chr16:76931812-76937930	ENSG00000186153	WWOX		-0.43	0.46	350.524
	chr16:76932967-76934025	ENSG00000186153	WWOX		-0.462	0.478	21.609
	chr16:76939612-76942430	ENSG00000186153	WWOX		-0.43	0.46	97.124
	chr16:77257347-77257436	ENSG00000186153	WWOX		-0.048	0.047	33.094
	chr16:77319462-77330036	ENSG00000186153	WWOX		0.089	0	287.291
	chr16:77434154-77435078	ENSG00000186153	WWOX		-0.307	0.205	868.35

chr16:77583705-77596691	ENSG00000186153	*WWOX*	0.051	0	2821.271
chr16:77617288-77620503	ENSG00000186153	*WWOX*	0.149	0.002	266.92
chr22:29067507-29067593	ENSG00000099995	*SF3A1*	-0.119	0.149	439.072
chr19:6338636-6339192	ENSG00000125651	*GTF2F1*	-0.433	0.274	129.152
chr20:60004020-60004338	ENSG00000130699	*TAF4*	0.05	0.759	42.497
chr7:140255056-140255272	ENSG00000133612;				
	ENSG00000157764	*BRAF*	0.029	0.032	68.718
chr15:64493591-64493737	ENSG00000169032	*MAP2K1*	-0.363	0.309	50.768
chr11:12358302-12358925	ENSG00000197702	*PARVA*	0.131	0.007	45.128

Table S2. The genic CNV groups identified by CNVnet that differentiate ASN from non-ASN, the overlapping Ensembl and Refseq genes, the p-values, r-values, F_{st} scores, and the sums of phastcons44way scores.

Group	Genic CNV	Ensembl gene	Refseq gene	p-value	r-value	Fst	Phastcons44way sum score
1	chr1:208001959-208002699	ENSG00000009790	TRAF3IP3	0.106	0.204	0.098	209.709
	chr19:13340551-13340870	ENSG00000141837	CACNA1A		0.143	0.092	30.672
	chr17:61785009-61785204	ENSG00000154229	PRKCA		0.123	0	11.683
	chr1:239252928-239253050	ENSG00000182901	RGS7		0.338	0.166	34.898
2	chr2:33077967-33080796	ENSG00000049323; ENSG00000152683	LTBP1	<0.001	-0.502	0.553	94.35
	chr5:127804627-127806206	ENSG00000138829	FBN2		0.061	0	316.077
3	chr17:9005941-9006057	ENSG00000065320	NTN1	0.016	0.258	0.043	41.301
	chr4:96601478-96601683	ENSG00000182168	UNC5C		-0.182	0.445	22.035
	chr4:96620089-96620483	ENSG00000182168	UNC5C		0.086	0	170.431
4	chr1:210537759-210539239	ENSG00000066027	PPP2R5A	0.001	0.534	0.62	264.294
	chr17:41442561-41442798	ENSG00000186868	MAPT		0.283	0.051	224.887
	chr9:132741961-132743041	ENSG00000097007	ABL1		0.339	0.089	68.664
	chr22:21906857-21907812	ENSG00000183785; ENSG00000186716	BCR		0.214	0.055	11.602
	chr3:186994746-186994971	ENSG00000073792	IGF2BP2		0.286	0.235	27.184
	chr3:161716764-161718359	ENSG00000186432	KPNA4		0.165	0.008	92.363
	chr20:35249024-35249335	ENSG00000118705	RPN2		0.074	0.599	81.271
5	chr7:80316526-80316710	ENSG00000075223	SEMA3C	<0.001	-0.24	0.064	154.562
	chr10:33532647-33532935	ENSG00000099250	NRP1		-0.522	0.479	377.15
6	chr19:50970493-50971468	ENSG00000104936	DMPK	0.116	-0.319	0.634	106.733
	chr11:47482692-47484577	ENSG00000149187	CELF1		0.106	0	325.677
7	chr4:102179177-102180210	ENSG00000138814	PPP3CA	0.149	0.204	0.052	62.71
	chr2:210113466-210114606	ENSG00000078018	MAP2		0.209	0.021	401.74
	chr13:35336405-35336722	ENSG00000133083	DCLK1		0.1	0.35	148.536
	chr13:35519764-35523750	ENSG00000133083	DCLK1		0.061	0	292.107
	chr2:179774912-179783830	ENSG00000187231	SESTD1		0.363	0.222	1214.63
	chr2:179774967-179780525	ENSG00000187231	SESTD1		0.363	0.222	609.093
	chr2:179784064-179785837	ENSG00000187231	SESTD1		0.378	0.235	357.856
8	chr12:11917683-11918420	ENSG00000139083	ETV6	<0.001	-0.595	0.696	44.519
	chr12:11917690-11918167	ENSG00000139083	ETV6		-0.586	0.709	44.519
	chr7:18792619-18792968	ENSG00000048052	HDAC9		0.44	0.198	44.105
	chr2:239666529-239666824	ENSG00000068024	HDAC4		0.123	0	4.986
	chr5:88078895-88079222	ENSG00000081189	MEF2C		-0.051	0.369	357.821
	chr9:138547346-138547616	ENSG00000148400	NOTCH1		-0.426	0.755	47.902
	chr4:96089472-96089789	ENSG00000138696	BMPR1B		0.364	0.238	245.715
	chr6:36178098-36178171	ENSG00000112062	MAPK14		0.135	0.137	137.261
9	chr7:2795297-2795627	ENSG00000146535	GNA12	<0.001	0.082	0	4.917
	chr15:83750610-83755243	ENSG00000170776	AKAP13		0.152	0.004	258.914
	chr15:83858012-83860202	ENSG00000170776	AKAP13		-0.007	0.243	81.636
	chr15:83903890-83903984	ENSG00000170776	AKAP13		-0.538	0.454	446.118
	chr6:152431683-152433926	ENSG00000091831	ESR1		0.006	0.316	258.929
	chr6:126224758-126229050	ENSG00000111912	NCOA7		0.155	0.331	134.549
10	chr20:30791024-30791695	ENSG00000149600	COMMD7	0.082	-0.322	0.202	118.253
	chr2:62203864-62204657	ENSG00000173163	COMMD1		0.061	0	196.843
11	chr13:69299968-69304789	ENSG00000150361	KLHL1	0.112	0.219	0.025	647.864
	chr13:69357060-69357373	ENSG00000150361	KLHL1		0.238	0.032	223.331
	chr4:96089472-96089789	ENSG00000138696	BMPR1B		0.364	0.238	245.715
	chr4:146658257-146659900	ENSG00000170365	SMAD1		0.141	0.163	150.048
	chr15:39805028-39805359	ENSG00000174197	MGA		-0.438	0.888	102.567
12	chr5:82518513-82518818	ENSG00000152422	XRCC4	0.028	0.299	0.4	46.832
	chr2:68563584-68569736	ENSG00000169621	APLF		0.061	0	542.145
13	chr1:54864862-54868554	ENSG00000162390	ACOT11	0.006	-0.284	0.4	521.906
	chr1:54865467-54866525	ENSG00000162390	ACOT11		-0.284	0.4	77.872
	chr20:19960660-19961103	ENSG00000173418	NAA20		0.176	0.011	367.056
	chr7:127407391-127407708	ENSG00000133612; ENSG00000197157	SND1		0.58	0.633	380.01
14	chr8:95627342-95630123	ENSG00000164944; ENSG00000212997	KIAA1429	<0.001	0.202	0.021	128.54
	chr12:11917683-11918420	ENSG00000139083	ETV6		-0.595	0.696	44.519

	chr12:11917690-11918167	ENSG00000139083	ETV6		-0.586	0.709	44.519
		ENSG00000008128;					
		ENSG00000189229;	CDK11A;				
		ENSG00000189339;	CDK11B;				
		ENSG00000215790;	MMP23A;				
		ENSG00000215914;	SLC35E2;				
	chr1:1607171-1662053	ENSG00000219541	SLC35E2B		-0.106	0.001	7087.82
	chr13:113039048-113039117	ENSG00000139835	GRTP1		-0.252	0.888	37.057
	chr3:19986449-19986548	ENSG00000144566	RAB5A		0.249	0.039	124.348
	chr17:5131275-5131369	ENSG00000029725	RABEP1		-0.028	0.061	140.31
	chr17:5218143-5218717	ENSG00000029725	RABEP1		0.086	0	74.972
15	chr2:181634073-181634394	ENSG00000170035	UBE2E3	0.004	-0.318	0.918	10.968
	chr18:53958688-53958856	ENSG00000049759	NEDD4L		0.061	0	70.951
	chr18:54059726-54060325	ENSG00000049759	NEDD4L		0.123	0	6.616
	chr18:54082073-54088115	ENSG00000049759	NEDD4L		0.086	0	397.106
	chr9:97305837-97306191	ENSG00000185920	PTCH1		0.183	0.488	9.877
	chr1:72222209-72222620	ENSG00000172260	NEGR1		-0.482	0.411	8.974
16	chr4:69076627-69093237	ENSG00000197888	UGT2B17	<0.001	-0.629	0.661	2100.33
	chr4:69096467-69108525	ENSG00000197888	UGT2B17		-0.629	0.661	1376.5
	chr4:69096712-69105730	ENSG00000197888	UGT2B17		-0.629	0.661	1116.886
	chr4:69106612-69114230	ENSG00000197888	UGT2B17		-0.62	0.661	490.938
	chr4:69108967-69117025	ENSG00000197888	UGT2B17		-0.62	0.661	770.941
	chr4:69115412-69117030	ENSG00000197888	UGT2B17		-0.617	0.662	398.913
	chr10:5238654-5238756	ENSG00000198610	AKR1C4		0.335	0.085	128.774
	chr10:5239893-5240994	ENSG00000198610	AKR1C4		0.191	0.018	754.025
	chr2:234208051-234209717	ENSG00000167165	UGT1A8		0.188	0.014	492.352
			UGT1A10;				
			UGT1A4;				
			UGT1A5;				
			UGT1A6;				
			UGT1A7;				
			UGT1A8;				
	chr2:234296217-234298725	ENSG00000167165	UGT1A9		-0.294	0.23	4.157
17	chr8:27718420-27718749	ENSG00000171320		0.025	-0.234	0.238	124.935
	chr1:54864862-54868554	ENSG00000162390	ACOT11		-0.284	0.4	521.906
	chr1:54865467-54866525	ENSG00000162390	ACOT11		-0.284	0.4	77.872
	chr20:19960660-19961103	ENSG00000173418	NAA20		0.176	0.011	367.056
		ENSG00000133612;					
	chr7:127407391-127407708	ENSG00000197157	SND1		0.58	0.633	380.01

Table S3. The genic CNV groups identified by CNVnet that differentiate YRI from non-YRI, the overlapping Ensembl and Refseq genes, the p-values, r-values, F_{st} scores, and the sums of phastcons44way scores.

Group	Genic CNV	Ensembl gene	Refseq gene	p-value	r-value	Fst	Phastcons44way sum score
1	chr12:1734273-1734587	ENSG00000006831	ADIPOR2	0.001	0.499	0.279	219.99
	chr2:242154777-242156007	ENSG00000176720	BOK		-0.071	0.415	257.821
	chr5:112505727-112506265	ENSG00000171444	MCC		0.102	0	95.867
	chr5:112694735-112700215	ENSG00000171444	MCC		-0.193	0.039	360.154
	chr1:179016392-179022016	ENSG00000143324	XPR1		0.102	0	479.722
2	chr12:6777645-6777900	ENSG00000010610	*CD4*	0.001	-0.038	0.157	47.701
	chr2:216866592-216866972	ENSG00000144583	*MARCH4*		0.421	0.144	425.569
3	chr2:33077967-33080796	ENSG00000049323; ENSG00000152683	*LTBP1*	0.124	0.411	0.332	94.35
	chr5:127804627-127806206	ENSG00000138829	*FBN2*		-0.11	0.003	316.077
4	chr1:210537759-210539239	ENSG00000066027	*PPP2R5A*	<0.001	-0.578	0.724	264.294
	chr17:41442561-41442798	ENSG00000186868	*MAPT*		0.271	0.044	224.887
	chr9:132741961-132743041	ENSG00000097007	*ABL1*		-0.311	0.231	68.664
	chr22:21906857-21907812	ENSG00000183785; ENSG00000186716	*BCR*		0.264	0.056	11.602
	chr3:186994746-186994971	ENSG00000073792	*IGF2BP2*		-0.334	0.389	27.184
	chr3:161716764-161718359	ENSG00000186432	*KPNA4*		-0.298	0.111	92.363
	chr20:35249024-35249335	ENSG00000118705	*RPN2*		0.141	0.597	81.271
5	chr7:80316526-80316710	ENSG00000075223	*SEMA3C*	0.011	0.132	0	154.562
	chr10:33532647-33532935	ENSG00000099250	*NRP1*		0.458	0.261	377.15
6	chr8:17896482-17897538	ENSG00000078674	*PCM1*	0.012	-0.21	0.057	446.671
	chr8:17903778-17904702	ENSG00000078674	*PCM1*		-0.592	0.49	106.188
	chr9:113205490-113209552	ENSG00000136813	*KIAA0368*		-0.283	0.284	777.001
	chr11:66468058-66469862	ENSG00000173599	*PC*		0.114	0.439	71.199
	chr11:85963610-85964370	ENSG00000151376	*ME3*		-0.499	0.375	31.632
	chr11:85981879-85984206	ENSG00000151376	*ME3*		0.201	0.128	458.853
7	chr3:1340574-1341706	ENSG00000134115	*CNTN6*	<0.001	-0.452	0.275	4.137
	chr3:157574858-157576385	ENSG00000169282	*KCNAB1*		-0.634	0.592	105.36
	chr3:198418971-198423652	ENSG00000075711	*DLG1*		0.356	0.091	1054.866
	chr4:22111163-22111260	ENSG00000152990	*GPR125*		0.235	0.106	11.256
8	chr4:102179177-102180210	ENSG00000138814	*PPP3CA*	0.039	-0.045	0.077	62.71
	chr2:210113466-210114606	ENSG00000078018	*MAP2*		-0.379	0.183	401.74
	chr13:35336405-35336722	ENSG00000133083	*DCLK1; MIR548F5*		-0.148	0.384	148.536
	chr13:35519764-35523750	ENSG00000133083	*DCLK1*		0.058	0	292.107
	chr2:179774912-179783830	ENSG00000187231	*SESTD1*		-0.418	0.428	1214.63
	chr2:179774967-179780525	ENSG00000187231	*SESTD1*		-0.418	0.428	609.093
	chr2:179784064-179785837	ENSG00000187231	*SESTD1*		-0.446	0.459	357.856
9	chr15:74671612-74673430	ENSG00000140386	*SCAPER*	0.079	0.442	0.26	420.239
	chr15:74671652-74683993	ENSG00000140386	*SCAPER*		0.441	0.245	2442.521
	chr15:74677967-74682525	ENSG00000140386	*SCAPER*		0.441	0.245	895.306
	chr5:126699607-126699670	ENSG00000145794	*MEGF10*		0.038	0.037	42.897
10	chr2:216866592-216866972	ENSG00000144583	*MARCH4*	<0.001	0.421	0.144	425.569
	chr12:6777645-6777900	ENSG00000010610	*CD4*		-0.038	0.157	47.701
	chr15:23482491-23483470	ENSG00000206190	*ATP10A*		-0.523	0.745	132.629
	chr15:23483812-23483877	ENSG00000206190	*ATP10A*		-0.024	0.035	123.733
11	chr13:69299968-69304789	ENSG00000150361	*KLHL1*	0.115	-0.245	0.109	647.864
	chr13:69357060-69357373	ENSG00000150361	*KLHL1*		-0.384	0.203	223.331
	chr4:96089472-96089789	ENSG00000138696	*BMPR1B*		-0.243	0.36	245.715
	chr4:146658257-146659900	ENSG00000170365	*SMAD1*		0.297	0.15	150.048
	chr15:39805028-39805359	ENSG00000174197	*MGA*		0.423	0.876	102.567
12	chr11:106743812-106746730	ENSG00000152404	*CWF19L2*	0.332	-0.262	0.389	203.289
	chr11:106747014-106748737	ENSG00000152404	*CWF19L2*		-0.262	0.389	113.51
	chr17:5279813-5280802	ENSG00000108561	*C1QBP*		-0.138	0.026	58.003
	chr11:82277695-82277812	ENSG00000137509	*PRCP*		-0.565	0.448	96.736
13	chr1:54864862-54868554	ENSG00000162390	*ACOT11*	0.001	0.468	0.261	521.906
	chr1:54865467-54866525	ENSG00000162390	*ACOT11*		0.468	0.261	77.872
	chr20:19960660-19961103	ENSG00000173418	*NAA20*		-0.32	0.129	367.056

	chr7:127407391-127407708	ENSG00000133612; ENSG00000197157	*SND1*		-0.563	0.713	380.01
14	chr3:157574858-157576385	ENSG00000169282	*KCNAB1*	<0.001	-0.634	0.592	105.36
	chr3:1340574-1341706	ENSG00000134115	*CNTN6*		-0.452	0.275	4.137
15	chr4:69076627-69093237	ENSG00000197888	*UGT2B17*	<0.001	0.508	0.468	2100.33
	chr4:69096467-69108525	ENSG00000197888	*UGT2B17*		0.508	0.468	1376.5
	chr4:69096712-69105730	ENSG00000197888	*UGT2B17*		0.508	0.468	1116.886
	chr4:69106612-69114230	ENSG00000197888	*UGT2B17*		0.495	0.468	490.938
	chr4:69108967-69117025	ENSG00000197888	*UGT2B17*		0.495	0.468	770.941
	chr4:69115412-69117030	ENSG00000197888	*UGT2B17*		0.487	0.473	398.913
	chr10:5238654-5238756	ENSG00000198610	*AKR1C4*		-0.351	0.237	128.774
	chr10:5239893-5240994	ENSG00000198610	*AKR1C4*		-0.346	0.165	754.025
	chr2:234208051-234209717	ENSG00000167165	*UGT1A8*		-0.167	0.06	492.352
	chr2:234296217-234298725	ENSG00000167165	*UGT1A10; UGT1A4; UGT1A5; UGT1A6; UGT1A7; UGT1A8; UGT1A9*		0.165	0.086	4.157
16	chr18:22001804-22005320	ENSG00000154611; ENSG00000188985	*PSMA8*	<0.001	-0.705	0.618	1123.877
	chr2:173597167-173597490	ENSG00000091428	*RAPGEF4*		-0.059	0.194	29.721
	chr11:14304887-14305202	ENSG00000133818	*RRAS2*		0.256	0.606	166.382
	chr12:18614538-18616361	ENSG00000139144	*PIK3C2G*		-0.25	0.075	174.031
	chr10:95843672-95843987	ENSG00000138193	*PLCE1*		-0.157	0.021	24.103
	chr3:187382682-187384899	ENSG00000058866	*DGKG*		0.058	0	117.736
	chr3:187512304-187512639	ENSG00000058866	*DGKG*		-0.496	0.311	36.096
	chr20:9097570-9097622	ENSG00000101333	*PLCB4*		-0.033	0.133	81.563
	chr20:9141752-9142025	ENSG00000101333	*PLCB4*		-0.445	0.276	42.963
17	chr6:123805116-123805420	ENSG00000186439	*TRDN*	0.012	-0.508	0.386	23.35
	chr8:62603331-62603752	ENSG00000198363	*ASPH*		0.058	0	110.77
	chr8:62675414-62677986	ENSG00000198363	*ASPH*		-0.32	0.129	415.948
18	chr8:27718420-27718749	ENSG00000171320		0.009	-0.007	0.161	124.935
	chr1:54864862-54868554	ENSG00000162390	*ACOT11*		0.468	0.261	521.906
	chr1:54865467-54866525	ENSG00000162390	*ACOT11*		0.468	0.261	77.872
	chr20:19960660-19961103	ENSG00000173418	*NAA20*		-0.32	0.129	367.056
	chr7:127407391-127407708	ENSG00000133612; ENSG00000197157	*SND1*		-0.563	0.713	380.01

Table S4. The genic CNV pairs identified by CNVnet that differentiate CEU from non-CEU, the overlapping Ensembl and Refseq genes, the p-values, r-values, F_{st} scores, and the sums of phastcons44way scores.

Pair	Genic CNV	Ensembl gene	Refseq gene	p-value	r-value	Fst	Phastcons44way sum score
1	chr12:6777645-6777900	ENSG00000010610	*CD4*	0.016	-0.42	0.406	47.701
	chr15:23482491-23483470	ENSG00000206190	*ATP10A*		0.447	0.622	132.629
2	chr15:66205377-66206224	ENSG00000033800	*PIAS1*	<0.001	0.051	0	226.5
	chr2:200020701-200020924	ENSG00000119042	*SATB2*		-0.568	0.631	377.505
3	chr4:24850148-24850288	ENSG00000038210	*PI4K2B*	0.001	-0.485	0.547	83.98
	chr1:218352078-218352397	ENSG00000067704	*IARS2*		0.151	0.292	8.728
4	chr15:46337554-46337873	ENSG00000074803	*SLC12A1*	0.019	0.452	0.26	57.11
	chr2:168604053-168604372	ENSG00000198648	*STK39*		-0.245	0.69	68.956
5	chr22:29067507-29067593	ENSG00000099995	*SF3A1*	0.002	-0.119	0.149	439.072
	chr16:76932967-76934025	ENSG00000186153	*WWOX*		-0.462	0.478	21.609
6	chr3:193545876-193546185	ENSG00000114279	*FGF12*	<0.001	0.652	0.753	148.21
	chr7:55102446-55103351	ENSG00000146648	*EGFR*		0.208	0.015	50.888
7	chr1:185170173-185170282	ENSG00000116711	*PLA2G4A*	0.002	0.229	0.034	56.17
	chr8:55134403-55134716	ENSG00000120992	*LYPLA1*		0.468	0.287	90.351
8	chr10:24416844-24418447	ENSG00000120549	*KIAA1217*	<0.001	-0.7	0.663	239.388
	chr17:7449181-7449236	ENSG00000129245	*FXR2*		0.198	0.015	129.612
9	chr4:102179177-102180210	ENSG00000138814	*PPP3CA*	<0.001	-0.169	0.145	62.71
	chr16:84339154-84339294	ENSG00000154102	C16orf74		-0.608	0.602	44.329

Table S5. The genic CNV pairs identified by CNVnet that differentiate ASN from non-ASN, the overlapping Ensembl and Refseq genes, the p-values, r-values, Fst scores, and the sums of phastcons44way scores.

Pair	Genic CNV	Ensembl gene	Refseq gene	p-value	r-value	Fst	Phastcons44way sum score
1	chr2:33077967-33080796	ENSG00000049323; ENSG00000152683	*LTBP1*	0.043	-0.502	0.553	94.35
	chr5:127804627-127806206	ENSG00000138829	*FBN2*		0.061	0	316.077
2	chr7:80316526-80316710	ENSG00000075223	*SEMA3C*	0.018	-0.24	0.064	154.562
	chr10:33532647-33532935	ENSG00000099250	*NRP1*		-0.522	0.479	377.15
3	chr2:173010737-173012713	ENSG00000091409	*ITGA6*	<0.001	0.061	0	137.912
	chr6:129361209-129367267	ENSG00000196569	*LAMA2*		0.617	0.403	31.39
4	chr19:18103159-18103478	ENSG00000099308	*MAST3*	0.008	0.28	0.1	288.095
	chr16:75096635-75101526	ENSG00000152910	*CNTNAP4*		-0.499	0.686	316.337
5	chr4:154451921-154454465	ENSG00000109654	*TRIM2*	0.001	0.086	0	217.314
	chr21:14251883-14251952	ENSG00000215559	*C21orf81*		0.411	0.152	25.601
6	chr1:185170173-185170282	ENSG00000116711	*PLA2G4A*	0.002	-0.03	0.072	56.17
	chr8:55134403-55134716	ENSG00000120992	*LYPLA1*		-0.4	0.51	90.351
7	chr9:100348865-100351485	ENSG00000136928	*GABBR2*	0.003	-0.563	0.676	202.21
	chr15:82071624-82071832	ENSG00000140600	*SH3GL3*		-0.283	0.2	96.863
8	chr9:100387807-100388137	ENSG00000136928	*GABBR2*	0.061	0.479	0.502	128.096
	chr15:82071624-82071832	ENSG00000140600	*SH3GL3*		-0.283	0.2	96.863
9	chr4:106589529-106589866	ENSG00000138777	*PPA2*	<0.001	0.274	0.047	81.401
	chr12:122803585-122803664	ENSG00000185344	*ATP6V0A2*		-0.86	0.904	107.905
10	chr1:72222209-72222620	ENSG00000172260	*NEGR1*	0.039	-0.482	0.411	8.974
	chr9:97305837-97306191	ENSG00000185920	*PTCH1*		0.183	0.488	9.877
11	chr20:19960660-19961103	ENSG00000173418	*NAA20*	<0.001	0.176	0.011	367.056
	chr7:127407391-127407708	ENSG00000133612; ENSG00000197157	*SND1*		0.58	0.633	380.01

Table S6. The genic CNV pairs identified by CNVnet that differentiate YRI from non-YRI, the overlapping Ensembl and Refseq genes, the p-values, r-values, F_{st} scores, and the sums of phastcons44way scores.

Pair	Genic CNV	Ensembl gene	Refseq gene	p-value	r-value	Fst	Phastcons44way sum score
1	chr12:1734273-1734587	ENSG00000006831	ADIPOR2	0.032	0.499	0.279	219.99
	chr2:242154777-242156007	ENSG00000176720	BOK		-0.071	0.415	257.821
2	chr12:6777645-6777900	ENSG00000010610	CD4	0.013	-0.038	0.157	47.701
	chr15:23482491-23483470	ENSG00000206190	ATP10A		-0.523	0.745	132.629
3	chr14:101642858-101644890	ENSG00000080824	HSP90AA1	<0.001	-0.193	0.039	256.175
	chr1:153926384-153931088	ENSG00000132676	DAP3		-0.807	0.823	1545.861
4	chr14:101642858-101644890	ENSG00000080824	HSP90AA1	<0.001	-0.193	0.039	256.175
	chr1:153927714-153930237	ENSG00000132676	DAP3		-0.807	0.823	929.535
5	chr1:195058412-195060030	ENSG00000080910	CFHR1	0.014	-0.531	0.536	85.351
		ENSG00000110244;	APOA1;				
		ENSG00000110245;	APOA4;				
		ENSG00000118137;	APOC3;				
	chr11:116188112-116226985	ENSG00000160584	SIK3		0.317	0.078	4014.147
6	chr19:18103159-18103478	ENSG00000099308	MAST3	<0.001	0.023	0.122	288.095
	chr16:75096635-75101526	ENSG00000152910	CNTNAP4		0.78	0.691	316.337
7	chr1:205358986-205359816	ENSG00000123838	C4BPA	0.058	0.444	0.609	434.753
	chr2:203003671-203021160	ENSG00000204217	BMPR2		-0.527	0.348	2055.341
8	chr9:100348865-100351485	ENSG00000136928	GABBR2	0.001	0.583	0.519	202.21
	chr15:82071624-82071832	ENSG00000140600	SH3GL3		0.185	0.065	96.863
9	chr7:55102446-55103351	ENSG00000146648	EGFR	0.001	-0.448	0.256	50.888
	chr11:48076638-48076946	ENSG00000149177	PTPRJ		0.56	0.652	42.008
10	chr20:19960660-19961103	ENSG00000173418	NAA20	0.012	-0.32	0.129	367.056
		ENSG00000133612;					
	chr7:127407391-127407708	ENSG00000197157	SND1		-0.563	0.713	380.01

Table S7. A list of genic CNV pairs (CNV_1, CNV_2), that might differentiate CEU from YRI identified by CNVnet, affect the gene expression differently in the two populations while each individual CNV doesn't affect gene expression differently in these two populations. The p-values (2-way ANOVA, with significant level $\alpha=0.01$) indicate their statistical power of affecting the expression of corresponding gene (Gene) individually (CNV_1-gene or CNV_2-gene) and in pair (CNV_1-CNV_2-Gene) in CEU versus YRI.

CNV_1	CNV_2	Gene	CEU CNV_1-Gene	CEU CNV_2-Gene	CEU CNV_1-CNV_2-Gene	YRI CNV1-Gene	YRI CNV2-Gene	YRI CNV1-CNV2-Gene
chr22:29067507-29067593	chr16:76932967-76934025	AKR7A2	0.31325	0.35339	0.0070477	0.28556	0.48287	0.28886
chr22:29067507-29067593	chr16:76932967-76934025	ARHGAP15	0.2879	0.39565	0.22673	0.28713	0.47481	0.0080651
chr22:29067507-29067593	chr16:76932967-76934025	ARHGEF17	0.84546	0.83962	0.48232	0.81155	0.18722	0.0035282
chr22:29067507-29067593	chr16:76932967-76934025	ARTN	0.77715	0.02811	0.34619	0.66534	0.021978	0.0048516
chr22:29067507-29067593	chr16:76932967-76934025	ATP8A2	0.83113	0.092942	0.0075311	0.60064	0.42088	0.78982
chr22:29067507-29067593	chr16:76932967-76934025	BCL3	0.32051	0.078625	0.0070371	0.59593	0.32456	0.032243
chr22:29067507-29067593	chr16:76932967-76934025	C14orf118	0.10627	0.36516	0.0089385	0.75918	0.46609	0.70639
chr22:29067507-29067593	chr16:76932967-76934025	C3orf21	0.14372	0.01191	0.0072503	0.90738	0.90497	0.24703
chr22:29067507-29067593	chr16:76932967-76934025	C9orf167	0.4587	0.05255	0.039582	0.83013	0.00068151	0.0035105
chr22:29067507-29067593	chr16:76932967-76934025	CAPS2	0.78145	0.003124	0.0096157	0.87399	0.4637	0.63417
chr22:29067507-29067593	chr16:76932967-76934025	CCDC50	0.15588	0.059673	0.0044298	0.58875	0.66629	0.5653
chr22:29067507-29067593	chr16:76932967-76934025	OCIAD1	0.94378	0.066773	0.0087412	0.27079	0.37725	0.68709
chr22:29067507-29067593	chr16:76932967-76934025	OXCT2	0.7382	0.28911	0.17998	0.031627	0.0021807	0.0021187
chr22:29067507-29067593	chr16:76932967-76934025	PGRMC2	0.41405	0.29136	0.0058639	0.44678	0.40473	0.51166
chr22:29067507-29067593	chr16:76932967-76934025	PITX1	0.60574	0.00807	0.006391	0.35675	0.20609	0.25849
chr22:29067507-29067593	chr16:76932967-76934025	PPP1R13L	0.19674	0.47367	0.16915	0.92742	0.61539	0.007449
chr22:29067507-29067593	chr16:76932967-76934025	PRPF39	0.34427	0.35639	0.0081931	0.55223	0.93767	0.28285
chr22:29067507-29067593	chr16:76932967-76934025	SNRPB2	0.031663	0.55292	0.0079794	0.18339	0.16008	0.14228
chr22:29067507-29067593	chr16:76932967-76934025	SPRED2	0.82113	0.054554	0.25837	0.90777	0.029083	0.0011893
chr22:29067507-29067593	chr16:76932967-76934025	SYCP3	0.88854	0.11009	0.0084489	0.40338	0.2178	0.10767
chr22:29067507-29067593	chr16:76932967-76934025	TNFAIP8L1	0.57875	0.25587	0.21573	0.31993	0.0053747	0.007449
chr22:29067507-29067593	chr16:76932967-76934025	TNPO2	0.17053	0.20572	0.0067377	0.26465	0.040881	0.20443
chr22:29067507-29067593	chr16:76932967-76934025	TSPAN17	0.83122	0.23434	0.0026296	0.67669	0.69411	0.71987
chr22:29067507-29067593	chr16:76932967-76934025	USP20	0.58536	0.042126	0.0053286	0.66797	0.75286	0.87334
chr22:29067507-29067593	chr16:76932967-76934025	ZBED2	0.11251	0.0003555	0.0073561	0.52778	0.90085	0.71183
chr22:29067507-29067593	chr16:76932967-76934025	ZIK1	0.101	0.17668	0.0095188	0.59334	0.30765	0.48712
chr22:29067507-	chr16:76932967-	ZNF575	0.13184	0.99685	0.002585	0.4906	0.24223	0.36515

29067593	76934025							
chr22:29067507-29067593	chr16:76932967-76934025	ZNF85	0.74943	0.29102	0.0091029	0.77798	0.25623	0.4999
chr3:193545876-193546185	chr7:55102446-55103351	FAM102B	0.38109	0.18095	0.0041196	0.62042	0.27257	0.23521
chr3:193545876-193546185	chr7:55102446-55103351	NOTUM	0.81366	0.0014054	0.0010704	0.76562	0.48388	0.11558
chr3:193545876-193546185	chr7:55102446-55103351	USP34	0.76651	0.028445	0.00085753	0.29445	0.96841	0.88476
chr15:46337554-46337873	chr2:168604053-168604372	AAK1	0.094001	0.51409	0.18689	0.70184	0.0087403	0.0042812
chr15:46337554-46337873	chr2:168604053-168604372	ACACB	0.43321	0.84798	0.0077101	0.78054	0.85029	0.0092735
chr15:46337554-46337873	chr2:168604053-168604372	AGR3	0.096759	0.62349	0.054915	0.23102	0.2742	0.0032191
chr15:46337554-46337873	chr2:168604053-168604372	ARTN	0.83015	0.086575	0.30902	0.50562	0.033469	0.0042738
chr15:46337554-46337873	chr2:168604053-168604372	ATP8A2	0.56355	0.42269	0.0040994	0.85538	0.93976	0.97764
chr15:46337554-46337873	chr2:168604053-168604372	BCL3	0.049233	0.47029	0.0092026	0.80031	0.31595	0.23397
chr15:46337554-46337873	chr2:168604053-168604372	BMP2K	0.65458	0.31427	0.58739	0.20397	0.71612	0.0086869
chr15:46337554-46337873	chr2:168604053-168604372	C11orf49	0.001703	0.64434	0.003193	0.49158	0.13337	0.099584
chr15:46337554-46337873	chr2:168604053-168604372	C1orf106	0.070832	0.85359	0.33869	0.12552	0.76458	0.0091734
chr15:46337554-46337873	chr2:168604053-168604372	C2orf34	0.19484	0.61417	0.62354	0.83852	0.10978	0.0045436
chr15:46337554-46337873	chr2:168604053-168604372	C7orf41	0.71963	0.61727	0.37806	0.88464	0.95472	0.0017459
chr15:46337554-46337873	chr2:168604053-168604372	CCDC132	0.54611	0.89854	0.99032	0.029802	0.57722	0.0095261
chr15:46337554-46337873	chr2:168604053-168604372	CD247	0.56645	0.6623	0.33509	0.28562	0.53498	0.0006917
chr15:46337554-46337873	chr2:168604053-168604372	CDCP1	0.0489	0.58409	0.0087262	0.079781	0.8088	0.62262
chr15:46337554-46337873	chr2:168604053-168604372	CNR2	0.24445	0.038118	0.0053466	0.31911	0.71524	0.44594
chr15:46337554-46337873	chr2:168604053-168604372	COL4A2	0.015519	0.62453	0.0059815	0.37543	0.67427	0.6396
chr15:46337554-46337873	chr2:168604053-168604372	COQ10A	0.29788	0.25006	0.0099043	0.71167	0.67334	0.037737
chr15:46337554-46337873	chr2:168604053-168604372	CPNE2	0.49779	0.32645	0.0077304	0.91434	0.25225	0.61149
chr15:46337554-46337873	chr2:168604053-168604372	CXCL9	0.43256	0.0006319	8.9661e-05	0.21463	0.032377	0.0067837
chr15:46337554-46337873	chr2:168604053-168604372	DEAF1	0.049575	0.40383	0.0099401	0.65447	0.25899	0.72458
chr15:46337554-46337873	chr2:168604053-168604372	ENTHD1	0.95998	0.062357	0.00060175	0.54193	0.97625	0.9131
chr15:46337554-46337873	chr2:168604053-168604372	ETFDH	0.62933	0.64109	0.6993	0.33191	0.60746	0.0032435
chr15:46337554-46337873	chr2:168604053-168604372	GLUL	0.018979	0.96162	0.0066271	0.81329	0.5782	0.33024
chr15:46337554-46337873	chr2:168604053-168604372	HBG2	0.14512	0.21223	0.60148	0.40959	0.070392	0.0009665
chr15:46337554-46337873	chr2:168604053-168604372	HSPB1	0.39669	0.26675	0.36533	0.49202	0.080158	0.0033668
chr15:46337554-46337873	chr2:168604053-168604372	IFT57	0.62248	0.67948	0.83616	0.7991	0.095875	0.0093959
chr15:46337554-46337873	chr2:168604053-168604372	IL1R2	0.98752	0.56937	0.34766	0.093765	0.95401	0.0049754
chr15:46337554-46337873	chr2:168604053-168604372	ITGA11	0.29532	0.31022	0.88274	0.26377	0.8486	0.008601
chr15:46337554-	chr2:168604053-	JUB	0.23751	0.051984	0.0072655	0.71088	0.76155	0.94662

46337873	168604372							
chr15:46337554-46337873	chr2:168604053-168604372	KCNIP2	0.023761	0.49808	0.00059484	0.511	0.521	0.89492
chr15:46337554-46337873	chr2:168604053-168604372	KLF2	0.67793	0.53142	0.90479	0.17069	0.51975	0.0068055
chr15:46337554-46337873	chr2:168604053-168604372	LRCH1	0.92983	0.32606	0.16558	0.36068	0.3221	0.0020317
chr15:46337554-46337873	chr2:168604053-168604372	MAP1A	0.57558	0.12909	0.0082707	0.28738	0.90018	0.28419
chr15:46337554-46337873	chr2:168604053-168604372	MCM3	0.92266	0.56764	0.64403	0.052121	0.042817	0.0092141
chr15:46337554-46337873	chr2:168604053-168604372	MCM9	0.48086	0.86448	0.35917	0.75961	0.39607	0.0044612
chr15:46337554-46337873	chr2:168604053-168604372	MLF2	0.14242	0.24662	0.845	0.70863	0.056522	0.0037686
chr15:46337554-46337873	chr2:168604053-168604372	MT1E	0.0005403	0.22478	0.0019474	0.63252	0.53306	0.70845
chr15:46337554-46337873	chr2:168604053-168604372	NCOR2	0.17866	0.25663	0.41346	0.36037	0.42694	0.0091836
chr15:46337554-46337873	chr2:168604053-168604372	NDUFA13	0.012654	0.47877	0.0087411	0.62253	0.75821	0.25433
chr15:46337554-46337873	chr2:168604053-168604372	NOTUM	0.83447	0.0073426	0.052276	0.4486	0.14052	0.0020834
chr15:46337554-46337873	chr2:168604053-168604372	OIT3	0.0002114	0.30548	0.004176	0.10927	0.90807	0.72436
chr15:46337554-46337873	chr2:168604053-168604372	PCID2	0.82687	0.21914	0.83456	0.81428	0.13335	0.0028534
chr15:46337554-46337873	chr2:168604053-168604372	PPFIBP2	0.99849	0.062512	0.0034914	0.53025	0.47645	0.4779
chr15:46337554-46337873	chr2:168604053-168604372	PPP1R1B	0.95603	0.39664	0.89062	0.017839	0.4519	0.0074723
chr15:46337554-46337873	chr2:168604053-168604372	PPP1R7	0.19418	0.75154	0.64793	0.63629	0.10857	0.0012711
chr15:46337554-46337873	chr2:168604053-168604372	PTPRS	0.32505	0.51472	0.0084256	0.27613	0.63943	0.93387
chr15:46337554-46337873	chr2:168604053-168604372	RREB1	0.068594	0.65402	0.0032866	0.2393	0.73045	0.67297
chr15:46337554-46337873	chr2:168604053-168604372	SCML4	0.42809	0.033155	0.0080316	0.34761	0.11622	0.16549
chr15:46337554-46337873	chr2:168604053-168604372	SIGLEC5	0.37776	0.027646	0.06105	0.0073026	0.58688	0.0010725
chr15:46337554-46337873	chr2:168604053-168604372	SLC30A3	0.83811	0.20355	0.77771	0.84142	0.45638	0.0058991
chr15:46337554-46337873	chr2:168604053-168604372	SPRED2	0.26779	0.12486	0.22436	0.3879	0.067015	0.0013095
chr15:46337554-46337873	chr2:168604053-168604372	TGIF1	0.57396	0.86242	0.65677	0.99732	0.17802	0.0080522
chr15:46337554-46337873	chr2:168604053-168604372	TMEM2	0.048447	0.74394	0.00085767	0.60567	0.28012	0.76524
chr15:46337554-46337873	chr2:168604053-168604372	USP48	0.08336	0.0051876	0.0020981	0.49383	0.49381	0.2452
chr15:46337554-46337873	chr2:168604053-168604372	ZNF501	0.010334	0.12006	0.007627	0.94937	0.99	0.82138
chr15:46337554-46337873	chr2:168604053-168604372	ZNF577	0.21038	0.084839	0.0013047	0.42346	0.70526	0.76164
chr15:46337554-46337873	chr2:168604053-168604372	ZYG11A	0.0015788	0.83397	0.0050546	0.090605	0.09169	0.37076