Supplemental Figures.

Figure S1. Top PCs capture the variation in global ancestry.

Global ancestry was estimated by principal component analysis based on genotypes from the pooled HapMap III panels (CEU, YRI, ASN, MEX and ASW), using 20% of genome-wide markers. Plotting the data by top PCs clearly partitioned the data by ethnic groups.
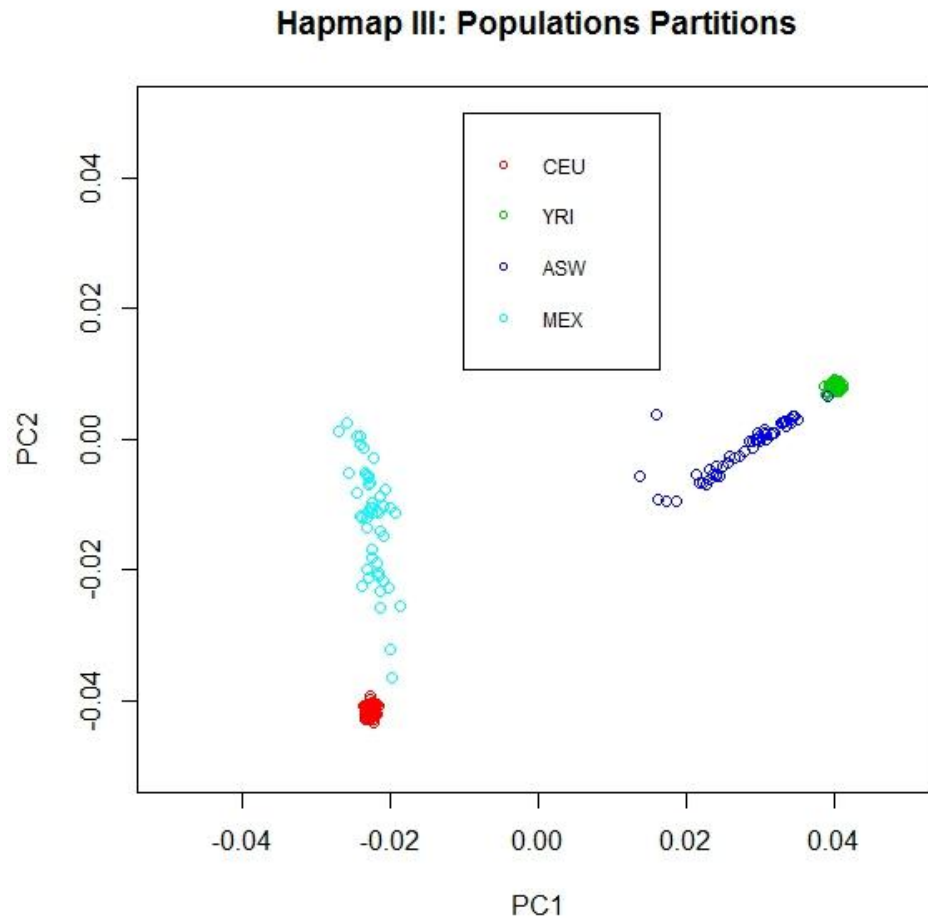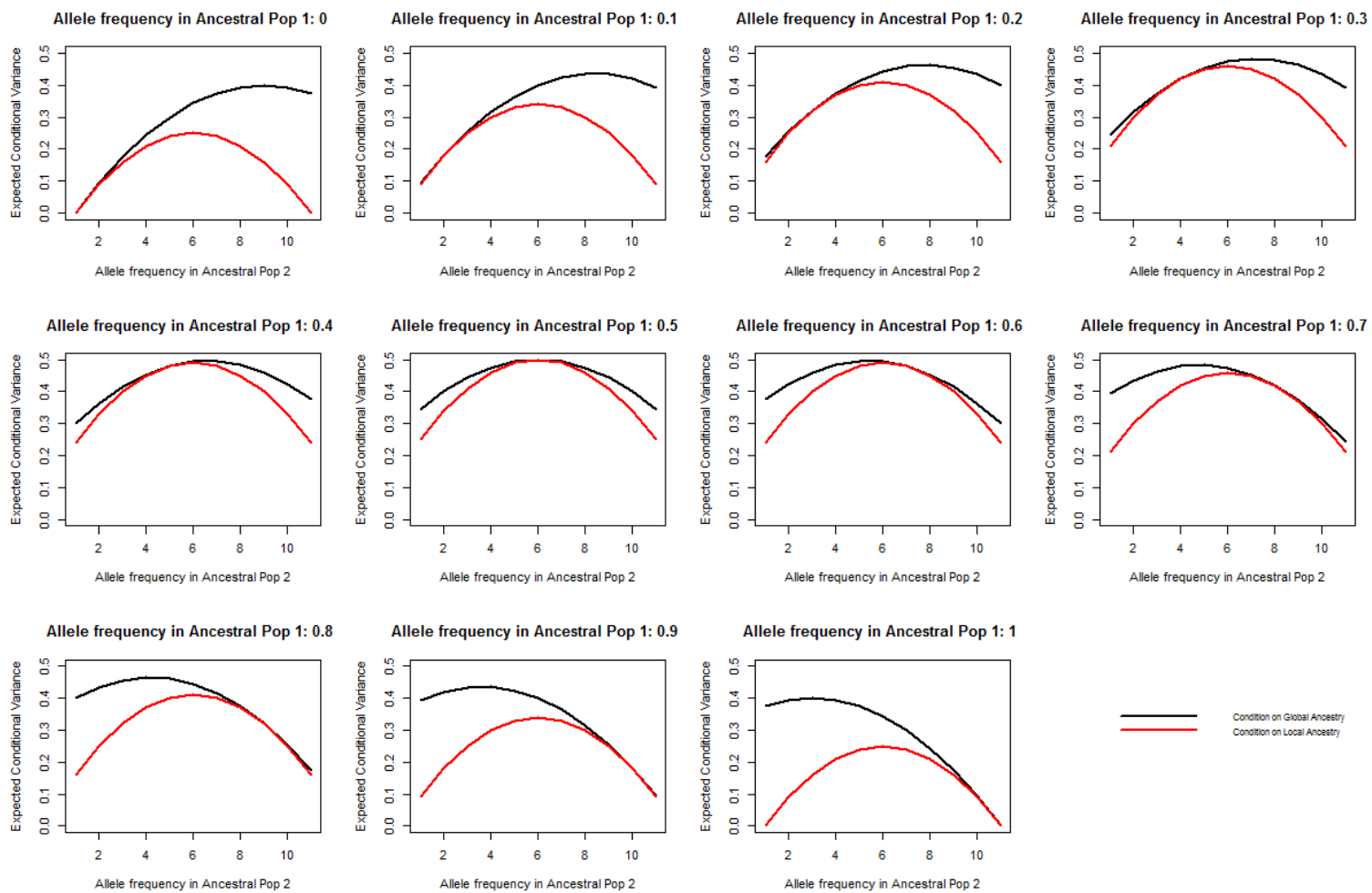
Figure S2. Expected conditional variance of Adx|G and Adx|L.

Supplemental Tables

Table S1. Number of differentiated SNPs in admixed populations, and average effective sample size with local ancestry adjustment relative to global ancestry adjustment in ASW.

	[0-0.3)	[0.3,0.5)	[0.5,1)
ASW (CEU vs YRI)	9366	2175	558
Var(ASW|L)/Var(ASW|G)*	0.979	0.891	0.765
MEX (CEU vs ASN)	10512	1399	188

*Assuming 5 generations of admixture 1:4(CEU vs YRI).

Table S2. Distance (Kb) to the furthest surrogate stratified by difference of allele frequencies.

a. Allele frequencies differ within [0, 0.3) at causal loci.

	1st Quartile	Median	3rd Quartile
80%YRI + 20% CEU	9.99	24.25	52.42
ASW	8.98	23.99	57.44
ASW | G	9.22	24.13	58.82
ASW | L	8.67	22.66	53.35
Var(ASW|L)/Var(ASW|G)*	0.969	0.988	0.997
50%ASN + 50%CEU	15.65	33.25	65.12
CEU	20.80	46.20	93.71
MEX	20.68	47.62	113.8
MEX | G	20.23	45.76	105.70
Sim ANC	39.38	67.5	138
Sim ADX	43.12	76.8	180
Sim ADX | G	39.37	69.38	136
Sim ADX| L	39.38	67.5	129.4

*Assuming 5 generations of admixture 1:4(CEU vs YRI).

b. Allele frequencies differ within [0.3, 0.5] at causal loci.

	1st Quartile	Median	3rd Quartile
80%YRI + 20% CEU	10.53	24.56	55.43
ASW	11.54	31.88	118.3
ASW | G	11.84	31.04	87.21
ASW | L	9.46	24.38	56.10
Var(ASW|L)/Var(ASW|G)*	0.871	0.908	0.932
50%ASN + 50%CEU	15.30	30.80	64.31
CEU	20.73	41.66	94.29
MEX	22.96	49.79	150.90
MEX | G	21.38	45.59	122.00
Sim ANC	35.62	60	97.5
Sim ADX	63.75	138.8	1752.0
Sim ADX | G	41.25	69.38	116.2
Sim ADX| L	33.75	56.25	88.12

*Assuming 5 generations of admixture 1:4(CEU vs YRI).

c. Allele frequencies differ within [0.5, 1) at causal loci.

	1st Quartile	Median	3rd Quartile
80%YRI + 20% CEU	10.75	29.13	55.84
ASW	19.45	56.74	1299.0
ASW | G	17.01	48.37	334.0
ASW | L	9.52	25.40	56.20
Var(ASW|L)/Var(ASW|G)*	0.729	0.793	0.832
50%ASN + 50%CEU	14.63	34.05	67.46
CEU	24.47	43.62	80.53
MEX	25.49	53.23	117.70
MEX | G	23.92	46.16	117.70
Sim ANC	28.12	56	94.22
Sim ADX	893.4	3191.0	4212.0
Sim ADX | G	52.50	99.38	354.4
Sim ADX| L	26.25	48.75	80.62

*Assuming 5 generations of admixture 1:4(CEU vs YRI).