

**Supplemental Table 1:** Clinical and demographic information

Trait	White women (N = 82)	Black women (N = 65)	p-value
Age*	25 (18-41)	24 (18-40)	0.368
Body Mass Index (BMI)*	25.0 (18-46)	27.6 (18-48)	0.500
Nugent Score*	2 (0-10)	7 (0-10)	<0.001
Previous miscarriage	28 (34.2)	14 (21.5)	0.093
Previous preterm birth	6 (7.3)	8 (12.5)	0.291
Parity*	3(1-7)	4 (1-12)	0.042
Smoking (before pregnancy)	57 (69.5)	34 (52.3)	0.025
Smoking (after pregnancy)	53 (64.6)	29 (44.6)	0.012
Smoking (cigarettes/day prior to pregnancy)*	8.5 (0-40)	1 (0-25)	0.005
Smoking (cigarettes/day after pregnancy)*	5 (0-40)	0 (0-25)	0.006
<u>Martial Status</u>			0.011
single	25 (30.5)	32 (49.2)	
living with partner>4 months	28 (34.2)	24 (36.9)	
married	24 (29.3)	6 (9.2)	
separated/divorced/widowed	5 (6.1)	3 (4.6)	
<u>Highest Level of Education</u>			0.050
junior high	20 (24.7)	18 (27.7)	
high school	43 (53.1)	42 (64.6)	
college/graduate school	18 (22.2)	5 (7.7)	
<u>Employment status</u>			0.343
unemployed	37 (45.1)	35 (53.9)	
part-time	25 (30.5)	13 (20.0)	
full-time	20 (24.4)	17 (26.2)	
<u>Income</u>			0.144
<\$10,000	32 (40.5)	29 (46.0)	
\$10,000-\$25,000	25 (31.7)	25 (39.7)	
>\$25,000	22 (27.9)	9 (14.3)	

\* indicates values are represented by median and range, all other values are listed as number of observations (%).

**Supplemental Table 2:** Positional information of SNPs

<i>RS#</i>	<i>Location</i>	<i>SNP position</i>	<i>Gene</i>	<i>Genic Region</i>	<i>Allele Frequency</i>		<i>Ethnic Differences</i>	
					<i>Whites</i>	<i>Blacks</i>	<i>Allelic</i>	<i>Genotypic</i>
rs10105164	4445	chr8:67247821	CRH	3' UTR	0.06 (T)	0.25 (T)	<0.001	<0.001
rs6996265	3362	chr8:67248904	CRH	3' UTR	0.12 (A)	0.45 (A)	<0.001	<0.001
rs3176921	-1667	chr8:67253933	CRH	Promoter	0.12 (C)	0.45 (C)	<0.001	<0.001
rs6472257	-2468	chr8:67254734	CRH	Promoter	0.12 (T)	0.28 (T)	<0.001	0.001
rs7839698	-4492	chr8:67256758	CRH	Promoter	0.06 (T)	0.14 (T)	0.015	0.049
rs10098823	-5915	chr8:67258181	CRH	Promoter	0.05 (A)	0.31 (A)	<0.001	<0.001
rs32897	2012	chr5:76286728	CRHBP	Intron	0.12 (G)	0.25 (G)	0.004	0.012
rs6453267	6796	chr5:76291512	CRHBP	Intron	1.00 (G)	0.22 (A)	<0.001	<0.001
rs10055255	15033	chr5:76299749	CRHBP	Intron	0.41 (T)	0.37 (A)	<0.001	<0.001
rs1875999	16022	chr5:76300738	CRHBP	Exon	0.39 (G)	0.37 (G)	0.713	0.944
rs10514082	17487	chr5:76302203	CRHBP	3' UTR	0.15 (C)	0.06 (C)	0.014	0.016
rs17689966	9-50	chr17:41266236	CRHR1	Intron	0.45 (G)	0.44 (A)	0.075	0.148
rs878887	50689	chr17:41268363	CRHR1	Exon	0.24 (T)	0.05 (T)	<0.001	<0.001
rs4722999	28121	chr7:30467015	CRHR2	Intron	0.30 (C)	0.29 (C)	0.895	0.747
rs12701020	26935	chr7:30468201	CRHR2	Intron	0.16 (T)	0.03 (T)	<0.001	<0.001
rs7812133	10-76	chr7:30468646	CRHR2	Intron	0.01 (A)	0.24 (A)	<0.001	<0.001
rs973002	22992	chr7:30472144	CRHR2	Intron	0.14 (G)	0.13 (G)	0.863	0.449
rs929377	17737	chr7:30477399	CRHR2	Intron	0.26 (A)	0.32 (T)	<0.001	<0.001
rs2240404	14594	chr7:30480542	CRHR2	Intron	0.10 (A)	0.48 (G)	<0.001	<0.001
rs2190242*	12421	chr7:30482715	CRHR2	Intron	0.18 (C)	0.14 (C)	0.332	0.159
rs2284217 <sup>+</sup>	8288	chr7:30486848	CRHR2	Intron	0.20 (A)	0.29 (A)	0.059	0.096
rs6462219	7595	chr7:30487541	CRHR2	Intron	0.11 (T)	0.02 (T)	0.003	0.002
rs2284219	7460	chr7:30487676	CRHR2	Intron	0.37 (A)	0.26 (G)	<0.001	<0.001
rs2267716	5253	chr7:30489883	CRHR2	Intron	0.25 (C)	0.30 (T)	<0.001	<0.001
rs2267717	4853	chr7:30490283	CRHR2	Intron	0.09 (A)	0.16 (A)	0.075	0.107

\* indicates marker deviated from HWE in whites ( $p < 0.05$ )<sup>+</sup> indicates marker deviated from HWE in blacks ( $p < 0.05$ )

**Supplemental Table 3:** Nugent score analysis of whites (a) and blacks (b) both with and without smoking.

a. White women		Single Locus Association			Gene by Smoking		
<i>Gene</i>	<i>Location</i>	<i>Additive</i>	<i>Recessive</i>	<i>Dominant</i>	<i>Additive</i>	<i>Recessive</i>	<i>Dominant</i>
CRH	4445	N/A	N/A	0.525	N/A	N/A	N/A
CRH	3362	N/A	N/A	0.518	N/A	N/A	N/A
CRH	-1667	N/A	N/A	0.518	N/A	N/A	N/A
CRH	-2468	N/A	N/A	0.518	N/A	N/A	N/A
CRH	-4492	N/A	N/A	0.525	N/A	N/A	N/A
CRH	-5915	N/A	N/A	0.840	N/A	N/A	N/A
CRH-BP	2012	N/A	N/A	0.335	N/A	N/A	0.083
CRH-BP	15033	0.047	0.015*	0.234	N/A	N/A	0.027*
CRH-BP	16022	0.206	0.082	0.395	N/A	N/A	0.059
CRH-BP	17487	N/A	N/A	0.610	N/A	N/A	0.002*
CRH-R1	9-50	0.053	0.478	0.016*	0.112	0.422	0.042
CRH-R1	50689	0.728	0.532	0.498	N/A	N/A	0.233
CRH-R2	28121	0.684	0.712	0.495	N/A	N/A	0.528
CRH-R2	26935	N/A	N/A	0.413	N/A	N/A	0.452
CRH-R2	22992	N/A	N/A	0.181	N/A	N/A	0.115
CRH-R2	17737	0.662	0.366	0.789	N/A	N/A	0.123
CRH-R2	14594	N/A	N/A	0.244	N/A	N/A	N/A
CRH-R2	12421	N/A	N/A	0.155	N/A	N/A	0.339
CRH-R2	8288	N/A	N/A	0.153	N/A	N/A	0.185
CRH-R2	7595	N/A	N/A	0.064	N/A	N/A	0.158
CRH-R2	7460	0.186	0.165	0.465	N/A	N/A	0.414
CRH-R2	5253	0.099	0.032*	0.404	N/A	N/A	0.496
CRH-R2	4853	N/A	N/A	0.048	N/A	N/A	N/A

b. Black women		Single Locus Association			Gene by Smoking		
<i>Gene</i>	<i>Location</i>	<i>Additive</i>	<i>Recessive</i>	<i>Dominant</i>	<i>Additive</i>	<i>Recessive</i>	<i>Dominant</i>
CRH	4445	0.277	0.161	0.870	N/A	N/A	0.041
CRH	3362	0.005*	0.062	0.080	N/A	N/A	0.007*
CRH	-1667	0.005*	0.062	0.080	N/A	N/A	0.007*
CRH	-2468	0.185	0.558	0.148	N/A	N/A	0.014*
CRH	-4492	N/A	N/A	0.957	N/A	N/A	0.080
CRH	-5915	0.088	0.159	0.263	N/A	N/A	0.039
CRH-BP	2012	N/A	N/A	0.925	N/A	N/A	0.054
CRH-BP	6796	N/A	N/A	0.737	N/A	N/A	0.072
CRH-BP	15033	0.871	0.824	0.608	N/A	N/A	0.134
CRH-BP	16022	0.632	0.339	0.852	N/A	N/A	0.042
CRH-BP	17487	N/A	N/A	0.510	N/A	N/A	N/A
CRH-R1	9-50	0.316	0.129	0.698	0.154	0.047	0.123
CRH-R1	50689	N/A	N/A	0.992	N/A	N/A	N/A
CRH-R2	28121	0.907	0.990	0.670	N/A	N/A	0.070
CRH-R2	10-76	N/A	N/A	0.225	N/A	N/A	0.043
CRH-R2	22992	N/A	N/A	0.395	N/A	N/A	0.064

CRH-R2	17737	0.785	0.764	0.622	N/A	N/A	0.062
CRH-R2	14594	0.972	0.969	0.814	0.228	0.076	0.082
CRH-R2	12421	N/A	N/A	0.904	N/A	N/A	0.065
CRH-R2	8288	N/A	N/A	0.236	N/A	N/A	0.027 <sup>*</sup>
CRH-R2	7460	0.569	0.342	0.449	N/A	N/A	0.063
CRH-R2	5253	0.626	0.366	0.557	N/A	N/A	0.021 <sup>*</sup>
CRH-R2	4853	N/A	N/A	0.066	N/A	N/A	0.013 <sup>*</sup>

<sup>D</sup>Indicates the dominant model was the best or only model

<sup>R</sup>Indicates the recessive model was the best or only model

<sup>A</sup>Indicates the additive model was the best or only model

<sup>\*</sup> Indicates result is significant after correction for multiple testing

N/A indicates the test was not performed due to small sample sizes (< 5 observations per cell)

**Supplemental Table 4: Case-Control single locus association analysis.**

<i>Gene</i>	<i>Location</i>	<i>Allele</i>	White women			Black women			
			<i>Additive</i>	<i>Recessive</i>	<i>Dominant</i>	<i>Additive</i>	<i>Recessive</i>	<i>Dominant</i>	
CRH	4445	0.481	0.739	N/A	0.713	0.381	0.107	0.074	1.000
CRH	3362	0.778	0.749	N/A	0.763	1.000	0.011	0.120	0.153
CRH	-1667	0.770	0.744	N/A	0.763	1.000	0.009	0.120	0.153
CRH	-2468	0.779	0.762	N/A	0.763	0.224	0.152	1.000	0.112
CRH	-4492	0.483	0.711	N/A	0.713	0.586	0.753	0.510	1.000
CRH	-5915	1.000	1.000	N/A	1.000	0.536	0.316	0.688	0.289
CRH-BP	2012	0.299	0.700	1.000	0.397	0.543	0.698	1.000	0.592
CRH-BP	6796	N/A	N/A	N/A	N/A	0.151	0.405	0.265	0.401
CRH-BP	15033	0.011	0.037	0.015	0.171	0.843	0.926	1.000	0.773
CRH-BP	16022	0.046	0.080	0.074	0.283	0.692	1.000	1.000	1.000
CRH-BP	17487	0.623	0.586	N/A	0.587	0.684	1.000	N/A	1.000
CRH-R1	9-50	0.031	0.046	0.528	0.022	0.693	0.404	0.283	1.000
CRH-R1	50689	0.034	0.156	0.313	0.116	0.671	1.000	N/A	1.000
CRH-R2	28121	0.683	0.749	1.000	0.608	0.533	0.735	0.384	0.790
CRH-R2	26935	0.456	0.397	N/A	0.430	0.651	1.000	N/A	1.000
CRH-R2	10-76	N/A	0.313	N/A	0.297	0.254	0.511	0.271	0.592
CRH-R2	22992	0.132	0.167	N/A	0.160	0.552	0.478	1.000	0.517
CRH-R2	17737	0.304	0.258	0.209	0.451	0.435	0.472	1.000	0.290
CRH-R2	14594	1.000	0.299	0.297	0.764	0.848	0.948	1.000	0.771
CRH-R2	12421	0.337	0.287	N/A	0.289	0.782	1.000	N/A	1.000
CRH-R2	8288	0.383	0.505	1.000	0.307	0.827	0.486	0.510	0.788
CRH-R2	7595	0.147	0.129	N/A	0.124	1.000	1.000	N/A	1.000
CRH-R2	7460	0.590	0.400	0.265	0.800	0.219	0.474	0.641	0.278
CRH-R2	5253	0.061	0.175	0.096	0.309	0.403	0.648	0.642	0.420
CRH-R2	4853	0.105	0.158	N/A	0.187	0.810	0.224	0.510	0.388

\* Indicates result is significant after correction for multiple testing

N/A indicates the test was not performed due to small sample sizes (< 5 observations per cell)

**Supplemental Table 5:** Nugent score comparisons between genotypes for non-smokers (NS) and smokers (S) and between smoking status for each genotype in white women (a) and black women (b) for any significant result (p<0.05)

a. White women

<i>Gene</i>	<i>Location</i>	<i>Genotype 1</i>	<i>Genotype 2</i>	<i>Genotype 1 vs Genotype 2</i>		<i>Non-smokers vs Smokers</i>	
				<i>NS</i>	<i>S</i>	<i>Genotype 1</i>	<i>Genotype 2</i>
CRH-BP <sup>D</sup>	15033	AA	AT/TT	0.080	0.027*	0.183	0.017*
CRH-BP <sup>D</sup>	17487	CC/CT	TT	0.002*	0.021*	0.001*	0.417
CRH-R1 <sup>D</sup>	9-50	AA/AG	GG	0.136	0.050	0.428	0.142

b. Black women

<i>Gene</i>	<i>Location</i>	<i>Genotype 1</i>	<i>Genotype 2</i>	<i>Genotype 1 vs Genotype 2</i>		<i>Non-smokers vs Smokers</i>	
				<i>NS</i>	<i>S</i>	<i>Genotype 1</i>	<i>Genotype 2</i>
CRH <sup>D</sup>	4445	CC/CT	TT	0.349	0.317	0.219	0.012*
CRH <sup>D</sup>	3362	AA/AG	GG	0.019*	0.926	0.003*	0.913
CRH <sup>D</sup>	-1667	AA/AG	GG	0.019*	0.926	0.003*	0.913
CRH <sup>D</sup>	-2468	CC	CT/TT	0.044	0.535	0.145	0.009*
CRH <sup>D</sup>	-5915	AA/AC	CC	0.128	0.887	0.019*	0.213
CRH-BP <sup>D</sup>	16022	AA/AG	GG	0.464	0.167	0.024*	0.123
CRH-R1 <sup>R</sup>	9-50	AA	AG/GG	0.334	0.124	0.212	0.025*
CRH-R2 <sup>D</sup>	10-76	AA/AG	GG	0.714	0.127	0.027*	0.260
CRH-R2 <sup>D</sup>	8288	AA/AG	GG	0.261	0.251	0.010*	0.178
CRH-R2 <sup>D</sup>	5253	CC	CT/TT	0.406	0.172	0.008*	0.360
CRH-R2 <sup>D</sup>	4853	AA/AG	GG	0.281	0.064	0.109	0.022*

\* Indicates result is significant after correction for multiple testing

<sup>D</sup> Indicates dominant model was used to test pair-wise comparisons

<sup>R</sup> Indicates recessive model was used to test pair-wise comparisons

**Supplemental Table 6:** Haplotype results for whites (a) and blacks (b).

## a. Whites

<u>CRH-BP Haplotypes</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
2012 15033	0.006	0.007
15033 16022	0.017	0.016
16022 17487	0.285	0.274
2012 15033 16022	0.008	0.010
15033 16022 17487	0.040	0.050
2012 15033 16022 17487	0.061	0.078
<u>CRH-R1 Hayplotypes</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
9-50 50689	0.148	0.173
<u>CRH-R2 Haplotypes</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
28121 26935	0.588	0.609
26935 22992	0.183	0.185
22992 17737	0.369	0.381
17737 14594	0.345	0.378
14594 12421	0.137	0.175
12421 8288	0.312	0.331
8288 7595	0.172	0.176
7595 7460	0.125	0.145
7460 5253	0.057	0.062
5253 4853	0.072	0.089
28121 26935 22992	0.475	0.308
26935 22992 17737	0.573	0.450
22992 17737 14594	0.529	0.582
17737 14594 12421	0.164	0.195
14594 12421 8288	0.433	0.466
12421 8288 7595	0.488	0.369
8288 7595 7460	0.219	0.241
7595 7460 5253	0.061	0.100
7460 5253 4853	0.121	0.153
28121 26935 22992 17737	0.482	0.538
26935 22992 17737 14594	0.414	0.487
22992 17737 14594 12421	0.097	0.089
17737 14594 12421 8288	0.295	0.313
14594 12421 8288 7595	0.313	0.332
12421 8288 7595 7460	0.211	0.283
8288 7595 7460 5253	0.116	0.161
7595 7460 5253 4853	0.123	0.139

## b. Blacks

<u>CRH Haplotype</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
4445 3362	0.764	0.784
3362 -1667	0.971	0.961
-1667 -2468	0.499	0.503
-2468 -4492	0.406	0.425
-4492 -5915	0.977	0.974

4445 3362 -1667	0.764	0.764
3362 -1667 -2468	0.499	0.515
-1667 -2468 -4492	0.505	0.536
-2468 -4492 -5915	0.505	0.534
4445 3362 -1667 -2468	0.570	0.599
3362 -1667 -2468 -4492	0.505	0.531
-1667 -2468 -4492 -5915	0.505	0.547



**Supplemental Table 7:** Haplotype results adjusted for smoking in whites (a) and blacks (b).

a. white women

<u>CRH-BP Haplotypes</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
2012 15033	0.011	0.014
15033 16022	0.037	0.064
16022 17487	0.391	0.421
2012 15033 16022	0.016	0.026
15033 16022 17487	0.081	0.107
2012 15033 16022 17487	0.114	0.159
<u>CRH-R1 Haplotypes</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
9-50 50689	0.185	0.202

b. black women

<u>CRH Haplotypes</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
4445 3362	0.656	0.676
3362 -1667	0.784	0.753
-4135	0.394	0.420
-6960	0.284	0.285
-10407	0.943	0.937
4445 3362 -1667	0.656	0.681
3362 -1667 -2468	0.394	0.400
-8627	0.401	0.415
-12875	0.401	0.447
4445 3362 -1667 -2468	0.502	0.561
3362 -1667 -2468 -4492	0.401	0.455
-14542	0.401	0.431
<u>CRH-BP Haplotypes</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
2012 6796	0.284	0.328
6796 15033	0.604	0.620
15033 16022	0.645	0.746
16022 17487	0.195	0.202
2012 6796 15033	0.330	0.405
6796 15033 16022	0.636	0.743
15033 16022 17487	0.412	0.558
2012 6796 15033 16022	0.683	0.731
6796 15033 16022 17487	0.292	0.343
<u>CRH-R1 Haplotypes</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
9-50 50689	0.394	0.388
<u>CRH-R2 Haplotypes</u>	<u>Global p-value</u>	<u>Global permuted p-value</u>
28121 10-76	0.554	0.589
10-76 22992	0.557	0.559
22992 17737	0.982	0.986
17737 14594	0.951	0.960
14594 12421	0.112	0.156
12421 8288	0.451	0.449

8288 7460	0.379	0.405
7460 5253	0.896	0.907
5253 4853	0.335	0.332
28121 10-76 22992	0.756	0.774
10-76 22992 17737	0.901	0.854
22992 17737 14594	0.863	0.866
17737 14594 12421	0.967	0.976
14594 12421 8288	0.761	0.797
12421 8288 7460	0.537	0.599
8288 7460 5253	0.553	0.573
7460 5253 4853	0.429	0.477
28121 10-76 22992 17737	0.673	0.705
10-76 22992 17737 14594	0.937	0.895
22992 17737 14594 12421	0.960	0.967
17737 14594 12421 8288	0.778	0.837
14594 12421 8288 7460	0.925	0.944
12421 8288 7460 5253	0.665	0.707
8288 7460 5253 4853	0.601	0.642