Supplementary Table S1: SNV numbering and naming* in *ARMC5*

SNV#:	Name	SNV#:	Name	SNV#:	Name	SNV#:	Name	SNV#:	Name
1	16:31470810	20	16:31473335	39	16:31475823	58	16:31476361	77	16:31477471
2	16:31470811 (rs202112554) 5.00e-03	21	16:31473597 (rs114871627) 7.59e-03	40	16:31475831	59	16:31476379 (rs201507383) 2.00e-04	78	16:31477474
3	16:31470886 (rs151069962) 2.36e-02	22	16:31473690	41	16:31475839	60	16:31476387	79	16:31477475 (rs146763279) 5.19e-03
4	16:31470908	23	16:31473724	42	16:31475847	61	16:31476406 (rs150981686) 2.00e-03	80	16:31477476 (rs201162311) 3.99e-04
5	16:31470929	24	16:31473726	43	16:31475859 (rs115663676) 7.19e-03	62	16:31476435	81	16:31477487
6	16:31470942	25	16:31473751	44	16:31475864 (rs142376949) 1.28e-02	63	16:31476457	82	16:31477574
7	16:31471015	26	16:31473752	45	16:31475916	64	16:31476458 (rs11150624) 3.04e-01	83	16:31477594 (rs200951744) 5.99e-04
8	16:31471019 (rs181081811) 5.19e-03	27	16:31473760	46	16:31475985	65	16:31476536	84	16:31477658 (rs200335852) 9.98e-04
9	16:31471102	28	16:31473836 (rs35461188) 7.99e-04	47	16:31475991	66	16:31476572 (rs184155650) 2.00e-04	85	16:31477697
10	16:31471139	29	16:31473869	48	16:31476015	67	16:31477195	86	16:31477709
11	16:31471160	30	16:31473899	49	16:31476020	68	16:31477274	87	16:31477725
12	16:31471173	31	16:31474012	50	16:31476021	69	16:31477301	88	16:31477781
13	16:31471174	32	16:31474020	51	16:31476084 (rs201720272) 5.99e-04	70	16:31477362 (rs200071319) 1.20e-03	89	16:31477790
14	16:31471193	33	16:31474065	52	16:31476093	71	16:31477416	90	16:31477795 (rs115611533) 8.19e-03
15	16:31471251	34	16:31474091 (rs141923065) 1.20e-03	53	16:31476186 (rs55800131) 3.29e-02	72	16:31477442 (rs116201073) 2.44e-02	91	16:31477834 (rs181967284) 2.00e-04
16	16:31471283 (rs201280100) 3.79e-03	35	16:31474132	54	16:31476191	73	16:31477447	92	16:31477879
17	16:31471311 (rs114930262) 7.59e-03	36	16:31474186	55	16:31476226	74	16:31477452	93	16:31478013
18	16:31471311	37	16:31474208	56	16:31476274	75	16:31477460 (rs11863886) 1.01e-01	94	16:31478106
19	16:31473275 (rs35923277) 2.33e-02	38	16:31475766	57	16:31476308	76	16:31477470	95	16:31478113

Supplementary Table S1 Legend: Name gives the genomic location preceded with chromosomal number. Rs number is provide if available along with MAFs based on the 1000 Genomes Study. For the chromosomal position, the genome alignment refers to GRCh37.

Supplemental Table S2: Cochran-Armitage Trend Test with PLINK file: “Hemoglobin A1c” 1 and 2 as affection

(a) Results significant at the 5% test-wise significance level

CHR	SNV	A1	A2	TEST	AFF	UNAFF	CHISQ	DF	P
16	rs181081811	T	C	TREND	83/3031	14/1216	9.24	1	0.0024
16	rs200335852	T	C	TREND	1/4597	4/1832	6.50	1	0.0108
16	rs201280100	A	G	TREND	1/4457	4/1784	6.47	1	0.0110

(b) Results for three common SNPs

CHR	SNV	A1	A2	TEST	AFF	UNAFF	CHISQ	DF	P
16	rs11863886	A	G	TREND	800/3808	308/1530	0.33	1	0.5676
16	rs11150624	T	C	TREND	496/4112	203/1635	0.11	1	0.7427
16	rs116201073	C	T	TREND	358/4250	133/1705	0.54	1	0.4628

Supplemental Table 2 Legend: The above table shows results from the Cochran-Armitage Trend Test for each of the SNVs. The A1c categorical variable has 3 categories: 0, 1, and 2, and is collapsed into a binary variable (having 1 and 2 as affection) for trend test analysis. There are 95 SNV variants under analysis. The A1 columns in the tables represent minor alleles and the A2 columns in the tables denote major alleles. (a) SNVs that are significantly associated with hemoglobin A1c (A1c) without multiple adjustment. After multiple adjustment, none of the SNVs are significantly associated with A1c. (b) None of the common SNPs tested significant individually at the 5% level.

Supplementary Table S3*

(a) Aldosterone

SNV #	*Haplotype*	*CI*	*AGE*	*BMI*	*MED*	*PC*	*SEX*
16 to 20	ACCAG	(0.076 0.304)	-	+	+	o	-
45 to 49	AGCCT	(0.081 0.784)	-	o	+	o	-
48 to 52	CCGTC	(0.061 0.839)	-	o	+	o	-
66 to 74	CCCCTCTGC	(-0.489 -0.040)	-	+	+	o	-
75 to 80	GCACGG	(0.007 2.441)	-	o	+	o	-
83 to 87	CCGCT	(0.477 1.505)	-	o	+	o	-
88 to 95	AGGACGCG	(-0.820 -0.092)	-	o	+	o	-

MED = Blood Pressure Medications

(b) Aldosterone

SNV #	*Haplotype*	*CI*	*AGE*	*BMI*	*MED*	*PC*	*SEX*
16 to 20	ACCAG	(0.053 0.291)	o	+	o	o	-
45 to 49	AGCCT	(0.054 0.782)	o	o	o	o	o
46 to 55	GCCCGTCCGC	(0.069 0.858)	o	+	o	o	-
66 to 74	CCCCTCTGC	(-0.514 -0.054)	o	+	o	o	-
83 to 87	CCGCT	(0.446 1.514)	o	+	o	o	-
88 to 95	AGGACGCG	(-0.798 -0.053)	o	o	o	o	o

MED = Diabetes Medications

(c) Plasma Renin Activity

SNV #	*Haplotype*	*CI*	*AGE*	*BMI*	*MED*	*PC*	*SEX*
2 to 6	CTATC	(0.037 1.01)	-	o	+	o	o
14 to 21	GCGCGAGC	(0.935 5.305)	o	o	+	o	o
79 to 86	GGGCGCGC	(0.019 1.910)	o	+	+	o	o

MED = Blood Pressure Medications

(d) Plasma Renin Activity

SNV #	*Haplotype*	*CI*	*AGE*	*BMI*	*MED*	*PC*	*SEX*
14 to 21	GCGCGAGC	(0.556 5.143)	o	o	+	o	o
61 to 65	TCGCC	(0.126 0.864)	o	+	+	o	o
79 to 83	GGGCG	(0.586 1.999)	o	+	+	o	o

MED = Diabetes Medications

Supplementary Table S3* (cont.)

(e) Systolic Blood Pressure

SNV #	*Haplotype*	*CI*	*AGE*	*BMI*	*MED*	*PC*	*SEX*
5 to 9	ACGCA	(0.007 0.197)	+	o	+	o	-
10 to 16	GCGCTCG	(0.069 0.304)	+	o	+	o	-
24 to 28	CCGCC	(0.001 0.187)	+	+	+	o	-
38 to 43	CGCTAC	(0.018 0.473)	+	+	+	o	o
48 to 52	TCGCC	(-0.063 -0.011)	+	+	+	o	-
67 to 75	CCCCTTGCG	(0.079 0.253)	+	+	+	o	-
76 to 84	CGCGTGCCC	(-0.324 -0.004)	+	+	+	o	-
79 to 83	AGGCG	(0.036 0.483)	+	+	+	o	-
86 to 92	CCAAGGC	(0.034 0.484)	+	+	+	+	-
89 to 93	AGGCG	(0.02 0.488)	+	+	+	o	o

MED = Blood Pressure Medication

(f) Diastolic Blood Pressure

SNV #	*Haplotype*	*CI*	*AGE*	*BMI*	*MED*	*PC*	*SEX*
18 to 22	GAGCT	(0.011 0.037)	-	+	o	o	-
42 to 46	ACCAA	(0.019 0.058)	-	o	o	o	-
45 to 49	AACCC	(0.009 0.123)	-	o	o	o	-
46 to 50	GTCCG	(0.003 0.185)	-	o	o	o	-
47 to 51	TCCGC	(0.011 0.042)	-	+	o	o	-
48 to 52	CCGCT	(0.01 0.05)	-	o	o	o	-
	TCGCC	(-0.074 -0.024)	-	o	o	o	-
67 to 71	CCCCT	(0.001 0.133)	-	o	+	o	-
82 to 89	CCCACCAG	(-0.343 -0.030)	-	o	o	o	-
91 to 95	GCCCA	(-0.314 -0.001)	-	+	o	o	-
	GCGCA	(-0.315 -0.004)	-	+	o	o	-

MED = Blood Pressure Medication

Supplementary Table S3* (cont.)

(g) Fasting Glucose

SNV #	*Haplotype*	*CI*	*AGE*	*BMI*	*MED*	*PC*	*SEX*
7 to 13	GCAGGGC	(0.267 1.112)	+	+	+	o	o
	GCTGGGC	(0.268 1.114)	+	+	+	o	o
21 to 27	CTCTCGC	(-0.890 -0.103)	+	+	+	o	-
27 to 35	CGGCTCTAG	(-0.896 -0.101)	+	+	+	o	-
38 to 42	CACCA	(-0.134 -0.03)	+	+	+	o	-
48 to 52	TCGCC	(-0.111 -0.018)	+	+	+	o	-
48 to 54	CCGTCCG	(-0.266 -0.027)	+	+	+	o	-
51 to 58	CCCGGACG	(0.242 0.785)	+	+	+	o	-
67 to 75	CCCCTTGCG	(0.078 0.376)	+	+	+	o	-
91 to 95	ACGCG	(0.04 0.354)	+	+	+	o	-

MED = Diabetes Medications

(h) HbA1c

SNV #	*Haplotype*	*CI*	*AGE*	*BMI*	*MED*	*PC*	*SEX*
3 to 7	AGTCG	(-0.078 -0.017)	+	+	+	o	o
9 to 13	TTCGC	(0.14 0.593)	+	+	+	o	o
12 to 16	GCGCA	(-0.13 -0.01)	+	+	+	o	-
14 to 21	GCGCGAGC	(-0.606 -0.047)	+	+	+	o	-
23 to 27	CCCGT	(-0.242 -0.034)	+	+	+	o	-
27 to 35	CGGCTCTAG	(-0.615 -0.056)	+	+	+	o	-
28 to 32	CGCCC	(-0.266 -0.038)	+	+	+	o	-
68 to 74	CCCTTGC	(0.007 0.215)	+	+	+	o	-
80 to 87	GGCCTGCC	(-0.260 -0.073)	+	+	+	o	-
89 to 93	GGACG	(0.019 0.225)	+	+	+	-	-
91 to 95	GCGTG	(0.033 0.202)	+	+	+	-	-

MED = Diabetes Medications

Legend Supplementary Table 3: Each of the six phenotypes (aldosterone, plasma renin activity, systolic blood pressure, diastolic blood pressure, fasting plasma glucose, and hemoglobin A1c) were analyzed as a response while age, BMI, the first principal components (PC) of the genome-wide genetic variants, and sex were adjusted as covariates. Either blood pressure medications or diabetic medications were used as additional covariates when appropriate. “-" denotes that the response is negatively associated with the covariate; “+” represents that the response is positively associated with the covariate; and “o” means that the association between the response and the covariate is not significant. CI represents credible intervals of a haplotype effect. Since the responses are log-transformed, the lower and upper bounds of each CI are percent changes. For example, (0.076, 0.304) shows that, on average, the presence of a copy of the ACCAG haplotype in the region spanned by SNP 16 – 20 will lead to an increase of the aldosterone level between 7.6% and 30.4% with a high level of confidence.