

**Table S1. Characteristics of African-American participants of DHS by APOL1 rs73885319 (G1) genotype.**

	A/A	A/G	G/G	P-value	P-value after adjustment for G2
N	1068	635	85	0.50*	
Male (%)	41.5	43.0	42.4	0.82	
Age (yr) <sup>a</sup>	44.4 (10.2)	45.4 (10.4)	44.7 (9.7)	0.14	0.18
Body mass index (kg/m <sup>2</sup> ) <sup>a</sup>	31.7 (8.0)	32.1 (8.4)	31.3 (8.7)	0.70	0.77
Systolic BP (mmHg) <sup>a</sup>	129.5 (20.1)	131.1 (20.3)	129.0 (16.8)	0.53	0.44
Diastolic BP (mmHg) <sup>a</sup>	80.7 (10.6)	81.4 (10.9)	80.0 (9.2)	0.77	0.64
Hypertension (%)	39.8	43.2	48.2	0.22	0.18
Heart Rate <sup>a</sup>	76.7 (11.6)	76.1 (11.7)	74.9 (10.6)	0.11	0.14
Glucose (mg/dL) <sup>c</sup>	91.2 (11.5)	90.5 (11.6)	92.3 (12.6)	0.12	0.045
HOMA IR (U) <sup>b</sup>	3.0 (1.7-4.9)	2.8 (1.7-4.6)	2.8 (1.6-4.1)	0.042	0.036
Diabetes (%)	14.2	15.4	9.4	0.11	0.095
Uric acid (mg/dL) <sup>a</sup>	5.5 (1.5)	5.6 (1.6)	5.6 (1.3)	0.90	0.91
Total cholesterol (mg/dL) <sup>a</sup>	178 (38)	178 (43)	172 (43)	0.083	0.13
LDL (mg/dL) <sup>a</sup>	106 (36)	104 (39)	101 (39)	0.094	0.15
HDL (mg/dL) <sup>a</sup>	52 (16)	52 (15)	51 (12)	0.50	0.52
Triglyceride (mg/dL) <sup>b</sup>	84 (61-121)	87 (63-124)	81 (58-127)	0.87	0.86
CRP (mg/L) <sup>b</sup>	3.6 (1.4-8.0)	3.8 (1.3-8.9)	2.9 (1.4-7.0)	0.98	0.93
ACR (mg/g) <sup>b</sup>					
Total	2.9 (1.7-5.9)	3.3 (1.9-7.7)	4.1 (2.4-10.6)	0.0009	-
Non-Diabetic (n=1559)	2.7 (1.7-5.2)	3.1 (1.8-6.0)	4.0 (2.3-10.2)	0.0016	-
Diabetic (n=266)	5.8 (2.2-28.8)	7.8 (2.7-23.9)	8.3 (2.7-12.8)	0.43	-
GFR <sub>4</sub> (ml/min/1.73 m <sup>2</sup> ) <sup>b</sup>	102(88-117)	100(87-115)	100(85-118)	0.35	-
GFR <sub>6</sub> (ml/min/1.73 m <sup>2</sup> ) <sup>b</sup>	102(88-117)	102(87-115)	102(86-119)	0.44	-
CKD (%)					
Total	10.4	13.2	16.7	0.046	0.004
Non-Diabetic (n=1559)	6.9	10.3	15.8	0.003	9.9×10 <sup>-05</sup>
Diabetic (n=266)	31.3	28.9	25	0.43	0.53
Microalbuminuria (%)					
Total	9.3	11.5	14.5	0.092	0.014
Non-Diabetic (n=1559)	6.2	8.8	13.3	0.015	0.001
Diabetic (n=266)	27.5	26.3	25.0	0.64	0.74
GFR <sub>4</sub> < 60 (%)					
Total	2.5	3.3	4.7	0.28	0.096
Non-Diabetic (n=1559)	1.6	3.0	5.2	0.024	0.008
Diabetic (n=266)	7.9	5.1	-	0.11	0.20
GFR <sub>6</sub> < 60 (%)					
Total	2.6	3.8	4.7	0.19	0.051
Non-Diabetic (n=1559)	1.7	3.2	5.2	0.027	0.007
Diabetic (n=266)	7.9	7.1	-	0.25	0.40

Continuous characteristics are shown as <sup>a</sup>mean (SD) or <sup>b</sup>median (25<sup>th</sup> - 75<sup>th</sup> percentile). <sup>c</sup>Diabetic individuals excluded from this analysis. P-values were calculated as described in the **Methods**. \*Test for deviation from Hardy-Weinberg equilibrium. ACR - urine albumin/creatinine ratio. Microalbuminuria - ACR ≥17 mg/g in men or ≥25 mg/g in women. GFR - glomerular filtration rate. CKD - chronic kidney disease; defined as the presence of microalbuminuria and/or GFR<sub>6</sub> <60 ml/min/1.73 m<sup>2</sup>.

**Table S2. Characteristics of African-American participants of DHS by APOL1 rs71785313 (G2) genotype.**

	TTATAA/ TTATAA	TTATAA/-	-/-	<i>P</i> -value	<i>P</i> -value after adjustment for G2
N	1321	442	43	0.40*	
Male (%)	41.9	43.2	44.2	0.86	
Age (yr) <sup>a</sup>	44.8 (10.4)	44.6 (10.0)	45.0 (9.3)	0.80	0.92
Body mass index (kg/m <sup>2</sup> ) <sup>a</sup>	32.0 (8.5)	31.2 (7.3)	32.9 (7.4)	0.64	0.74
Systolic BP (mmHg) <sup>a</sup>	130.1 (19.8)	130.3 (20.6)	129.0 (19.3)	0.77	0.59
Diastolic BP (mmHg) <sup>a</sup>	81.0 (10.7)	81.0 (10.6)	80.7 (9.9)	0.78	0.66
Hypertension (%)	41.9	40.4	41.9	0.84	0.58
Heart Rate <sup>a</sup>	76.3 (11.8)	77.0 (11.0)	73.7 (9.5)	0.63	0.88
Glucose (mg/dL) <sup>c</sup>	91.5 (11.6)	90.0 (12.0)	90.0 (10.5)	0.12	0.047
HOMA IR (U) <sup>b</sup>	3.0 (1.7-4.8)	2.9 (1.7-4.7)	3.0 (1.8-5.5)	0.86	0.42
Diabetes (%)	15.1	13.3	16.3	0.92	0.90
Uric acid (mg/dL) <sup>a</sup>	5.5 (1.5)	5.6 (1.6)	5.5 (1.4)	0.14	0.14
Total cholesterol (mg/dL) <sup>a</sup>	178 (41)	178 (39)	179 (33)	0.53	0.91
LDL (mg/dL) <sup>a</sup>	104 (37)	105 (37)	108 (35)	0.53	0.89
HDL (mg/dL) <sup>a</sup>	52 (15)	53 (17)	53 (17)	0.97	0.87
Triglyceride (mg/dL) <sup>b</sup>	86 (61-123)	81 (63-125)	83 (64-114)	0.98	0.92
CRP (mg/L) <sup>b</sup>	3.5 (1.4-8.6)	3.7 (1.4-7.4)	4.6 (2.0-8.8)	0.72	0.76
ACR (mg/g) <sup>b</sup>					
Total	3.1 (1.9-6.5)	3.1 (1.7-6.7)	3.9 (2.0-11.8)	0.90	-
Non-Diabetic (n=1559)	2.9 (1.8-5.5)	2.9 (1.7-5.5)	3.8 (2.0-11.7)	0.85	-
Diabetic (n=266)	6.7 (2.5-24.9)	7.3 (2.3-34.8)	6.6 (1.8-18.5)	0.97	-
GFR <sub>4</sub> (ml/min/1.73 m <sup>2</sup> ) <sup>b</sup>	102(88-116)	99 (87-115)	102(88-116)	0.17	-
GFR <sub>6</sub> (ml/min/1.73 m <sup>2</sup> ) <sup>b</sup>	103(88-118)	101(87-116)	103(88-114)	0.30	
CKD (%)					
Total	10.9	13.9	17.9	0.013	0.004
Non-Diabetic (n=1559)	7.3	11.2	15.6	0.011	0.0004
Diabetic (n=266)	31.0	31.6	28.6	0.59	0.60
Microalbuminuria (%)					
Total	9.7	12.3	15.8	0.026	0.004
Non-Diabetic (n=1559)	6.4	9.9	12.9	0.021	0.002
Diabetic (n=266)	27.8	28.1	28.6	0.67	0.61
GFR <sub>4</sub> < 60 (%)					
Total	2.6	3.4	4.7	0.10	0.049
Non-Diabetic (n=1559)	2.0	2.6	2.8	0.52	0.21
Diabetic (n=266)	5.5	8.5	14.3	0.094	0.22
GFR <sub>6</sub> < 60 (%)					
Total	2.7	3.8	4.7	0.066	0.026
Non-Diabetic (n=1559)	2.0	3.1	2.8	0.29	0.089
Diabetic (n=266)	6.5	8.5	14.3	0.15	0.25

Continuous characteristics are shown as <sup>a</sup>mean (SD) or <sup>b</sup>median (25<sup>th</sup> - 75<sup>th</sup> percentile). <sup>c</sup>Diabetic individuals excluded from this analysis. *P*-values were calculated as described in the **Methods**. \*Test for deviation from Hardy-Weinberg equilibrium. ACR - urine albumin/creatinine ratio. Microalbuminuria - ACR ≥17 mg/g in men or ≥25 mg/g in women. GFR - glomerular filtration rate. CKD - chronic kidney disease; defined as the presence of microalbuminuria and/or GFR<sub>6</sub> <60 ml/min/1.73 m<sup>2</sup>.

Table S3

**Association between End-stage Renal Disease and APOL1 risk alleles  
(DHS African Americans)**

## 1. All African American participants:

ESRD status	0 alleles	1 alleles	2 alleles	Risk allele frequency (%) <sup>*</sup>
No	682	853	231	37.2
Yes	2	3	5	65.0
Yes (%)	0.29	0.35	2.12	

<sup>\*</sup> Combined frequency for both risk alleles.

Fisher's Exact Test :  $p = 0.006$  when comparing 0/1 vs. 2 risk alleles. (OR=6.63, 95% CI 1.51-29.1)

## 2. Non-diabetic participants:

ESRD status	0 alleles	1 alleles	2 alleles	Risk allele frequency (%) <sup>*</sup>
No	584	724	203	37.4
Yes	1	2	5	75.0
Yes (%)	0.17	0.28	2.40	

Fisher's Exact Test:  $p = 0.0018$  for 0/1 vs. 2 risk alleles. (OR=10.7, 95% CI 2.1-69.4)