SUPPLEMENTAL MATERIAL

Supplemental Table 1 Summary characteristics of study cohorts

	ARIC Europeans		FHS Europeans		Combined[*]	
	Male (N=2402)	Females (N=2835)	Male (N=1365)	Females (N=1606)	Male (N=3767)	Females (N=4441)
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Age	53.81 ± 5.60	53.19 ± 5.55	39.30 ± 8.62	39.35 ± 8.69	48.55 ± 9.78	48.18 ± 9.55
BMI (kg/m2)	26.75 ± 3.66	25.36 ± 4.72	27.53 ± 4.36	25.38 ± 5.45	27.04 ± 3.95	25.37 ± 5.00
Serum urate (mmol/L)	0.379 ± 0.071	0.293 ± 0.064	0.369 ± 0.070	0.254 ± 0.058	0.375 ± 0.071	0.279 ± 0.065
Serum triglycerides (mmol/L)	1.531 ± 1.006	1.277 ± 0.726	1.467 ± 1.218	1.050 ± 0.596	1.508 ± 1.088	1.195 ± 0.691

* Standard deviation (SD) in combined males and females: SU=0.083, Tg=0.909.

Supplemental Table 2 Serum urate and serum triglyceride levels according to uric acid transporter genetic risk score

Genetic Risk Score	Obs.	Serum Urate (mmol/L)		Serum Triglycerides (mmol/L)	
All		**Mean**	**SD**	**Mean**	**SD**
ARIC Europeans					
0	13	0.262	0.102	1.335	1.007
1	100	0.289	0.080	1.403	1.198
2	438	0.313	0.083	1.444	0.936
3	965	0.321	0.079	1.415	0.999
4	1316	0.334	0.079	1.397	0.857
5	1289	0.339	0.079	1.351	0.793
6	750	0.341	0.078	1.392	0.800
7	264	0.351	0.076	1.469	0.900
8	93	0.354	0.072	1.253	0.576
9	9	0.389	0.095	1.392	0.523
10	0				
FHS Europeans					
0	2	0.239	0.129	1.616	0.495
1	61	0.285	0.095	1.320	0.804
2	265	0.283	0.084	1.248	1.070
3	598	0.295	0.087	1.291	1.126
4	763	0.305	0.084	1.227	0.875
5	663	0.311	0.085	1.212	0.948
6	428	0.327	0.087	1.237	0.837
7	144	0.323	0.083	1.241	0.966
8	42	0.323	0.077	1.169	0.696
9	5	0.408	0.075	1.356	1.046
10	0				
Combined					
0	15	0.259	0.101	1.372	0.947
1	161	0.288	0.085	1.348	1.024
2	703	0.301	0.085	1.370	0.992
3	1563	0.311	0.083	1.368	1.051
4	2079	0.323	0.082	1.335	0.868
5	1952	0.329	0.082	1.304	0.851
6	1178	0.336	0.082	1.336	0.817
7	410	0.341	0.080	1.389	0.930
8	135	0.344	0.074	1.227	0.614
9	14	0.396	0.086	1.379	0.711
10	0				
Males					
ARIC Europeans					
0	6	0.343	0.086	1.577	1.039
1	43	0.343	0.064	1.853	1.655
2	193	0.365	0.072	1.478	0.898
3	441	0.366	0.071	1.554	1.278
4	623	0.377	0.069	1.535	0.933
5	594	0.386	0.071	1.494	0.898
6	333	0.387	0.071	1.538	0.906
7	122	0.401	0.061	1.632	1.000
8	44	0.405	0.057	1.335	0.513
9	3	0.443	0.074	1.562	0.697
10	0				
FHS Europeans					
0	1	0.330	_	1.966	_
1	31	0.359	0.066	1.489	0.463
2	117	0.347	0.068	1.529	1.456
3	257	0.361	0.074	1.590	1.507
4	363	0.364	0.071	1.398	1.037

5	301	0.375	0.066	1.456	1.223
6	211	0.387	0.068	1.414	1.002
7	62	0.380	0.076	1.490	1.347
8	17	0.369	0.073	1.390	0.822
9	5	0.408	0.075	1.356	1.046
10	0				
Combined					
0	7	0.341	0.079	1.632	0.960
1	74	0.350	0.065	0.701	1.345
2	310	0.358	0.071	1.497	1.139
3	698	0.364	0.072	1.567	1.366
4	986	0.372	0.070	1.484	0.975
5	895	0.382	0.069	1.481	1.019
6	544	0.387	0.069	1.490	0.945
7	184	0.394	0.067	1.584	1.127
8	61	0.395	0.063	1.350	0.608
9	8	0.421	0.071	1.433	0.880
10	0				

Females

ARIC Europeans

0	7	0.193	0.048	1.127	0.497
1	57	0.248	0.065	1.063	0.485
2	245	0.271	0.065	1.417	0.966
3	524	0.283	0.063	1.298	0.659
4	693	0.295	0.066	1.274	0.763
5	695	0.298	0.061	1.230	0.668
6	417	0.304	0.063	1.276	0.682
7	142	0.307	0.060	1.331	0.785
8	49	0.308	0.050	1.180	0.624
9	6	0.362	0.099	1.308	0.466
10	0				

FHS Europeans

0	1	0.148	_	1.266	_
1	30	0.208	0.046	1.020	0.486
2	148	0.233	0.058	1.026	0.523
3	341	0.245	0.058	1.068	0.633
4	400	0.252	0.055	1.072	0.661
5	362	0.257	0.056	1.010	0.559
6	217	0.270	0.060	1.065	0.592
7	82	0.280	0.058	1.053	0.444
8	25	0.292	0.063	1.019	0.564
9	0				
10	0				

Combined

0	8	0.187	0.047	1.145	0.936
1	87	0.235	0.062	1.048	0.464
2	393	0.257	0.065	1.269	0.848
3	865	0.268	0.064	1.207	0.658
4	1093	0.279	0.065	1.200	0.733
5	1057	0.284	0.063	1.154	0.641
6	634	0.292	0.064	1.204	0.660
7	224	0.297	0.060	1.229	0.692
8	74	0.303	0.055	1.125	0.605
9	6	0.362	0.099	1.308	0.466
10	0				

Supplemental Table 3 Serum urate and serum Tg levels according to Tg genetic risk score

Genetic Risk Score		Serum Urate (mmol/L)		Serum Triglycerides (mmol/L)	
All	Obs.	Mean	SD	Mean	SD
ARIC Europeans					
3	2	0.378	0.025	0.706	0.040
4	7	0.303	0.057	1.032	0.498
5	45	0.338	0.064	1.134	0.616
6	194	0.329	0.072	1.230	0.749
7	471	0.331	0.081	1.254	0.702
8	967	0.329	0.080	1.278	0.762
9	1294	0.334	0.080	1.404	0.907
10	1174	0.333	0.080	1.446	0.826
11	701	0.332	0.081	1.488	0.877
12	292	0.335	0.080	1.598	1.352
13	82	0.328	0.079	1.632	0.987
14	7	0.389	0.107	1.645	0.921
15	1	0.366	–	4.437	–
FHS Europeans					
3	0	–	–	–	–
4	1	0.283	–	0.520	–
5	22	0.319	0.090	0.929	0.538
6	78	0.305	0.072	0.894	0.403
7	264	0.300	0.087	1.054	0.607
8	515	0.309	0.087	1.169	0.862
9	723	0.308	0.083	1.188	0.737
10	693	0.301	0.086	1.247	0.903
11	428	0.309	0.089	1.387	1.142
12	191	0.311	0.09	1.638	1.756
13	44	0.324	0.099	1.499	0.949
14	11	0.31	0.077	1.792	1.314
15	1	0.325	–	1.187	–
Combined					
3	2	0.378	0.025	0.706	0.040
4	8	0.301	0.053	0.968	0.496
5	67	0.332	0.073	1.067	0.595
6	272	0.322	0.073	1.133	0.684
7	735	0.320	0.085	1.182	0.679
8	1482	0.322	0.083	1.240	0.799
9	2017	0.325	0.082	1.326	0.856
10	1867	0.321	0.084	1.372	0.860
11	1129	0.323	0.085	1.450	0.987
12	483	0.326	0.085	1.614	1.523
13	126	0.327	0.086	1.585	0.972
14	18	0.341	0.095	1.735	1.149
15	2	0.345	0.029	2.812	2.298
Males					
ARIC Europeans					
3	1	0.395	–	0.677	–
4	2	0.339	0.038	1.287	0.048
5	16	0.370	0.059	1.398	0.718
6	90	0.374	0.060	1.411	0.875
7	225	0.374	0.075	1.364	0.733
8	431	0.377	0.070	1.379	0.919
9	584	0.381	0.073	1.502	0.955
10	553	0.379	0.069	1.592	0.871
11	310	0.382	0.071	1.691	1.103
12	141	0.380	0.070	1.793	1.773
13	44	0.375	0.061	1.856	1.172

14	5	0.424	0.092	1.985	0.875
15	0	–	–	–	–
FHS Europeans					
3	0	–	–	–	–
4	1	0.283	–	0.520	–
5	11	0.359	0.088	0.963	0.342
6	34	0.357	0.052	0.911	0.393
7	118	0.361	0.072	1.229	0.740
8	243	0.370	0.069	1.393	1.078
9	342	0.369	0.067	1.399	0.883
10	298	0.364	0.078	1.452	1.115
11	199	0.377	0.068	1.625	1.488
12	91	0.377	0.069	2.137	2.345
13	21	0.391	0.073	1.641	0.997
14	6	0.34	0.081	2.026	1.59
15	1	0.325	–	1.187	–
Combined					
3	1	0.395	–	0.677	–
4	3	0.321	0.042	1.031	0.444
5	27	0.366	0.071	1.221	0.625
6	124	0.369	0.058	1.273	0.803
7	343	0.369	0.074	1.318	0.737
8	674	0.374	0.069	1.382	0.975
9	926	0.376	0.071	1.463	0.930
10	851	0.374	0.073	1.543	0.965
11	509	0.380	0.070	1.666	1.267
12	232	0.379	0.070	1.928	2.019
13	65	0.380	0.065	1.787	1.116
14	11	0.378	0.093	2.008	1.253
15	1	0.325	–	1.187	–

Females

ARIC Europeans					
3	1	0.360	–	0.734	–
4	5	0.321	0.042	1.031	0.444
5	29	0.321	0.060	0.989	0.507
6	104	0.290	0.058	1.074	0.581
7	246	0.292	0.066	1.154	0.667
8	536	0.291	0.066	1.197	0.597
9	710	0.295	0.063	1.324	0.858
10	621	0.292	0.065	1.316	0.760
11	391	0.292	0.064	1.326	0.595
12	151	0.295	0.065	1.427	0.759
13	38	0.274	0.061	1.371	0.637
14	2	0.304	0.121	0.796	0.088
15	1	0.366	–	4.437	–
FHS Europeans					
3	0	–	–	–	–
4	0	–	–	–	–
5	11	0.280	0.076	0.896	0.698
6	44	0.265	0.059	0.881	0.415
7	146	0.252	0.065	0.913	0.427
8	272	0.255	0.062	0.969	0.536
9	381	0.254	0.056	0.998	0.506
10	395	0.252	0.055	1.093	0.663
11	229	0.250	0.058	1.181	0.656
12	100	0.251	0.058	1.184	0.692
13	23	0.263	0.079	1.369	0.906
14	5	0.273	0.057	1.51	0.988
15	0	–	–	–	–
Combined					
3	1	0.360	–	0.734	–

4	5	0.289	0.060	0.930	0.571
5	40	0.309	0.066	0.963	0.558
6	148	0.282	0.059	1.017	0.543
7	392	0.277	0.068	1.064	0.600
8	808	0.279	0.067	1.120	0.587
9	1091	0.281	0.064	1.210	0.769
10	1016	0.277	0.064	1.229	0.732
11	620	0.276	0.065	1.272	0.622
12	251	0.277	0.066	1.330	0.741
13	61	0.270	0.068	1.370	0.743
14	7	0.282	0.070	1.306	0.880
15	1	0.366	_	4.437	_

Supplemental Table 4 Analysis of association of uric acid transporter genetic risk score with tested confounders by linear regression

			Beta	SE	P
Age					
	ARIC Europeans	Crude	-0.004	0.052	0.933
		Adjusted	-0.016	0.049	0.739
	FHS Europeans	Crude	0.112	0.108	0.296
		Adjusted	0.118	0.099	0.232
	Combined	Crude	0.137	0.072	0.057
		Adjusted	0.029	0.048	0.550
Sex					
	ARIC Europeans	Crude	-0.001	0.005	0.865
		Adjusted	-0.0004	0.004	0.927
	FHS Europeans	Crude	-0.005	0.006	0.384
		Adjusted	-0.008	0.005	0.123
	Combined	Crude	-0.002	0.004	0.511
		Adjusted	-0.004	0.003	0.276
BMI					
	ARIC Europeans	Crude	-0.024	0.040	0.553
		Adjusted	-0.016	0.037	0.655
	FHS Europeans	Crude	-0.103	0.063	0.105
		Adjusted	-0.078	0.055	0.160
	Combined	Crude	-0.054	0.034	0.113
		Adjusted	-0.041	0.031	0.183
eGFR					
	ARIC Europeans	Crude	0.135	0.092	0.142
		Adjusted	0.111	0.088	0.205
	FHS Europeans	Crude	-0.005	0.224	0.983
		Adjusted	0.064	0.217	0.768
	Combine	Crude	-0.164	0.161	0.310
		Adjusted	0.073	0.097	0.452
Systolic blood pressure					
	ARIC Europeans	Crude	0.184	0.134	0.170
		Adjusted	0.162	0.125	0.196
	FHS Europeans	Crude	-0.177	0.170	0.296
		Adjusted	-0.193	0.150	0.198
	Combined	Crude	0.043	0.105	0.682
		Adjusted	0.032	0.097	0.742
LDL-C					
	ARIC Europeans	Crude	-0.0052	0.0090	0.566
		Adjusted	-0.0028	0.0086	0.742
	FHS Europeans	Crude	0.0085	0.0104	0.412
		Adjusted	0.0094	0.0096	0.323
	Combined	Crude	0.0041	0.0072	0.570
		Adjusted	0.0017	0.0065	0.793
HDL-C					

	ARIC Europeans	Crude	0.0027	0.0041	0.514
		Adjusted	0.0016	0.0034	0.634
	FHS Europeans	Crude	0.0028	0.0051	0.582
		Adjusted	0.0030	0.0043	0.485
	Combined	Crude	0.0022	0.0032	0.494
		Adjusted	0.0023	0.0027	0.397
PCA1					
	ARIC Europeans	Crude	0.000001	0.000004	0.794
		Adjusted	-0.0000007	0.000004	0.856
	FHS Europeans	Crude	-0.00045	0.00014	0.001
		Adjusted	-0.00047	0.00014	0.001
	Combined	Crude	-0.00019	0.00005	0.0002
		Adjusted	-0.00016	0.00005	0.001
PCA2					
	ARIC Europeans	Crude	0.00007	0.00008	0.365
		Adjusted	0.00007	0.00007	0.333
	FHS Europeans	Crude	0.00009	0.00018	0.642
		Adjusted	0.00004	0.00018	0.822
	Combined	Crude	0.00007	0.00008	0.377
		Adjusted	0.00007	0.00008	0.399

Each independent test variable was adjusted by the other eight variables (as a possible confounder).
The combined analysis was additionally adjusted by study of origin. BMI, body mass index; eGFR,
estimated glomurelar filtration rate; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density
lipoprotein cholesterol; PCA, principal component analysis.

Supplemental Table 5 Analysis of association of triglyceride genetic risk score with tested confounders by linear regression

			Beta	SE	P
Age					
	ARIC Europeans	Crude	0.028	0.048	0.565
		Adjusted	0.025	0.048	0.605
	FHS Europeans	Crude	-0.003	0.100	0.979
		Adjusted	0.012	0.099	0.904
	Combined	Crude	-0.140	0.067	0.036
		Adjusted	0.019	0.047	0.680
Sex					
	ARIC Europeans	Crude	-0.005	0.004	0.299
		Adjusted	-0.005	0.004	0.239
	FHS Europeans	Crude	-0.001	0.006	0.915
		Adjusted	-0.002	0.006	0.692
	Combined	Crude	-0.003	0.003	0.368
		Adjusted	-0.004	0.003	0.232
BMI					
	ARIC Europeans	Crude	-0.036	0.037	0.339
		Adjusted	-0.042	0.037	0.255
	FHS Europeans	Crude	-0.087	0.059	0.138
		Adjusted	-0.088	0.057	0.125
	Combined	Crude	-0.050	0.032	0.118
		Adjusted	-0.060	0.031	0.057
PCA1					
	ARIC Europeans	Crude	0.000004	0.000004	0.294
		Adjusted	0.000005	0.000003	0.160
	FHS Europeans	Crude	0.0003	0.0001	0.021
		Adjusted	0.0003	0.0001	0.028
	Combined	Crude	0.00016	0.00005	0.001
		Adjusted	0.0001	0.00005	0.024
PCA2					
	ARIC Europeans	Crude	-0.000035	0.000075	0.642
		Adjusted	-0.000069	0.000068	0.305
	FHS Europeans	Crude	-0.00015	0.00017	0.399
		Adjusted	-0.00013	0.00017	0.449
	Combined	Crude	-0.00007	0.00008	0.378
		Adjusted	-0.00007	0.00008	0.364

Each independent test variable was adjusted by the other four variables (as a possible confounder). The combined analysis was additionally adjusted by study of origin. BMI, body mass index; PCA, principal component analysis.