

**Web Table 1.** Hazard ratios for 18 metabolites significantly related to all-cause mortality in single-metabolite analysis among African Americans in the Atherosclerosis Risk in Communities (ARIC) Study, 1987–2011

<b>Metabolite</b>	<b>Super-Pathway</b>	<b>Missing Rate</b>	<b>Hazard Ratio</b>	<b>95% CI</b>	<b>P Value</b>
5-Oxoproline	Amino acid	0.00%	0.81	(0.74,0.88)	3.51E-07
$\alpha$ -Hydroxyisovalerate	Amino acid	0.00%	1.14	(1.08,1.2)	4.58E-07
<i>N</i> -Acetylalanine	Amino acid	0.10%	1.12	(1.06,1.18)	3.30E-05
Mannose	Carbohydrate	0.05%	1.22	(1.13,1.31)	1.22E-07
Glycocholate	Lipid	11.84%	1.12	(1.07,1.16)	1.38E-07
Pregnen-diol disulfate	Lipid	0.10%	1.17	(1.10,1.25)	5.03E-07
Andro-steroid monosulfate 2	Lipid	36.52%	1.13	(1.08,1.19)	8.92E-07
4-Androsten-3 $\beta$ , 17 $\beta$ -diol disulfate 1	Lipid	0.15%	1.13	(1.07,1.19)	3.33E-06
Uridine	Nucleotide	0.00%	0.86	(0.79,0.92)	4.27E-05
$\gamma$ -Glutamylleucine	Peptide	0.00%	0.80	(0.74,0.87)	4.42E-08
Cotinine	Xenobiotic	63.63%	1.40	(1.23,1.59)	2.78E-07
X-11440	No super-pathway	0.91%	1.22	(1.14,1.30)	2.45E-09
X-14662	No super-pathway	41.27%	1.17	(1.10,1.24)	2.51E-07
X-11372	No super-pathway	0.10%	0.81	(0.75,0.89)	1.27E-06
X-12688	No super-pathway	1.77%	1.17	(1.1,1.26)	4.90E-06
X-11687_200	No super-pathway	35.71%	1.14	(1.08,1.21)	9.64E-06
X-12846	No super-pathway	23.67%	1.11	(1.06,1.17)	1.37E-05
X-11299	No super-pathway	3.19%	1.14	(1.07,1.22)	9.96E-05

Values shown are hazard ratios obtained from Cox proportional hazards regression. Covariates were: age, sex, body mass index, systolic blood pressure, antihypertensive medication use, diabetes status, current smoking status, prevalent cardiovascular disease status, plasma high-density lipoprotein cholesterol level, total cholesterol level, and estimated glomerular filtration rate from baseline measurement.

**Web Table 2.** Hazard ratios for 5 metabolites significantly related to cardiovascular mortality in single-metabolite analysis among African Americans in the Atherosclerosis Risk in Communities (ARIC) Study, 1987–2011

<b>Metabolite</b>	<b>Super-Pathway</b>	<b>Missing Rate</b>	<b>Hazard Ratio</b>	<b>95% CI</b>	<b>P Value</b>
Mannose	Carbohydrate	0.05%	1.33	(1.21,1.47)	1.71E-08
Glucose	Carbohydrate	0.00%	1.29	(1.16,1.43)	3.64E-06
Glycocholate	Lipid	11.84%	1.13	(1.07,1.22)	4.05E-05
X-12846	No super-pathway	23.67%	1.14	(1.07,1.20)	3.84E-05
X-11440	No super-pathway	0.91%	1.21	(1.10,1.34)	1.11E-04

Values shown are hazard ratios observed from Cox proportional hazards regression. Covariates were: age, sex, body mass index, systolic blood pressure, antihypertensive medication use, diabetes status, current smoking status, prevalent cardiovascular disease status, plasma high-density lipoprotein cholesterol level, total cholesterol level, and estimated glomerular filtration rate from baseline measurement.

**Web Figure 1.** Cumulative incidence of all-cause mortality (A) and cardiovascular mortality (B) by quartile of mannose level among African Americans in the Atherosclerosis Risk in Communities (ARIC) Study, 1987–2011.

