Appendix

Supplemental Table 1. Spearman correlations of urinary biomarkers, urine creatinine, and eGFR

	eGFR	Uromodulin	β2m	α1m	Urine creatinine	Urine albumin
eGFR	---	0.345*	-0.132*	-0.222*	0.143*	-0.233*
Uromodulin		---	0.033	0.101*	0.482*	0.008
β2m			---	0.498*	0.003	0.273*
α1m				---	0.390*	0.519*
Urine creatinine					---	0.295*
Urine albumin						---

*p<0.01

Abbreviations: eGFR, estimated glomerular filtration rate by combined CKD-EPI equation for serum creatinine and cystatin C; β2m, β2-microglobulin; α1m, α1-microglobulin.

Supplemental Table 2. Associations of urinary biomarker-creatinine ratios with annualized eGFR change among SPRINT participants with CKD (N = 2,428)

	Standard BP arm N = 1186	Intensive BP arm N = 1242	P-value for interaction
	% annual eGFR change (95% CI)	% annual eGFR change (95% CI)	
Urine uromodulin/cr (per 2-fold higher)			
Model 1[a]	0.28 (0.03, 0.54)	0.24 (0.01, 0.47)	0.079
Model 2[b]	0.20 (-0.06, 0.45)	0.03 (-0.22, 0.27)	0.001
Model 3[c]	0.26 (0.01, 0.51)	0.06 (-0.19, 0.30)	0.001
Urine β2m/cr (per 2-fold higher)			
Model 1[a]	-0.33 (-0.42, -0.26)	-0.14 (-0.22. -0.07)	<0.001
Model 2[b]	-0.20 (-0.27, -0.12)	-0.08 (-0.16, -0.001)	0.007
Model 3[c]	-0.08 (-0.16, -0.01)	-0.01 (-0.08, 0.08)	0.003
Urine α1m/cr (per 2-fold higher)			
Model 1[a]	-1.09 (-1.27, -0.92)	-0.59 (-0.78, -0.41)	<0.001
Model 2[b]	-0.57 (-0.77, -0.38)	-0.31 (-0.52, -0.11)	<0.001
Model 3[c]	0.02 (-0.19, 0.23)	0.01 (-0.22, 0.23)	0.001

Abbreviations: α1m/cr, α1-microglobulin/creatinine ratio; β2m/cr, β2-microglobulin/creatinine ratio; BP, blood pressure; CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; uromodulin/cr, uromodulin/creatinine ratio.

[a]Adjusted for age, sex, race, and urine creatinine.

[b]Adjusted for Model 1 covariates and baseline eGFR, smoking status, history of cardiovascular disease, baseline number of antihypertensive medications, systolic blood pressure, diastolic blood pressure, body mass index, high-density lipoprotein, and total cholesterol.

[c]Adjusted for Model 2 covariates and urine albumin.

Supplemental Table 3. Associations of urinary biomarker-creatinine ratios with 50% eGFR decline or ESKD requiring dialysis or transplant among SPRINT participants with CKD (N = 2,428)

	Standard BP arm N = 30 events	Intensive BP arm N = 57 events	P-value for interaction
	Hazard Ratio (95% CI)	Hazard Ratio (95% CI)	
Urine uromodulin/cr (per 2-fold higher)			
Model 1[a]	0.71 (0.49, 1.02)	0.79 (0.61, 1.03)	0.166
Model 2[b]	0.93 (0.65, 1.37)	0.96 (0.74, 1.25)	0.032
Model 3[c]	0.85 (0.57, 1.27)	0.94 (0.72, 1.23)	0.015
Urine β2m/cr (per 2-fold higher)			
Model 1[a]	1.33 (1.10, 1.59)	1.08 (0.97, 1.20)	0.055
Model 2[b]	1.06 (0.89, 1.27)	1.04 (0.95, 1.15)	0.206
Model 3[c]	1.03 (0.86, 1.23)	1.01 (0.92, 1.11)	0.221
Urine α1m/cr (per 2-fold higher)			
Model 1[a]	2.82 (2.07, 3.84)	1.49 (1.18, 1.89)	0.001
Model 2[b]	1.66 (1.14, 2.41)	1.23 (0.93, 1.63)	0.003
Model 3[c]	1.44 (0.95, 2.18)	1.03 (0.78, 1.38)	0.003

Abbreviations: α1m/cr, α1-microglobulin/creatinine ratio; β2m/cr, β2-microglobulin/creatinine ratio; BP, blood pressure; CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; ESKD, end-stage kidney disease; HR, hazard ratio; uromodulin/cr, uromodulin/creatinine ratio.

[a]Adjusted for age, sex, race, and urine creatinine.

[b]Adjusted for Model 1 covariates and baseline eGFR, smoking status, history of cardiovascular disease, baseline number of antihypertensive medications, systolic blood pressure, diastolic blood pressure, body mass index, high-density lipoprotein, and total cholesterol.

[c]Adjusted for Model 2 covariates and urine albumin.