| NHALES | L-red meat Beta- estimate(p-value) | H-red meat Beta- estimate(p-value) |
|-------------------|---------------------------------------|---------------------------------------|
| eGFR ≥ 60(n=1500) | Ref | -0.10(p=0.009) |
| eGFR<60(n=240) | -0.15(p=0.006) | -0.32(p<0.001) |

Covariates include gender, age, race, body mass index, smoking status, physical activity, diabetes, and fasting status. eGFR denotes glomerular filtration rate; NHANES denotes the National Health and Nutritional Examination Survey. L-meat denotes low red meat intakes; H-red meat denotes high red meat intakes. Those have red meat intakes ≥quintile 4 in the NHANES are considered as having high intakes.

Table S1: Joint association of red meat and renal function with urinary nitrates among participants who had intakes of total vegetables above the median in the NHANES.

| HPFS | L-red meat Beta- estimate(p-value) | H-red meat Beta- estimate(p-value) |
|---------------------|---------------------------------------|---------------------------------------|
| Controls (n=155) | Ref | -0.16(p=0.009) |
| Advanced PCa (n=30) | -0.15(p=0.006) | -0.49(p<0.001) |

Covariates include age, race, body mass index, smoking status, physical activity, diabetes, and fasting status. PCa denotes prostate cancer; HPFS denote Health Professionals Follow-up Study. L-meat denotes low red meat intakes; H-red meat denotes high red meat intakes. Those have red meat intakes ≥ quintiles 4 in the HPFS are considered as having high intakes.

Table S2: Joint association of red meat and advanced PCa* status with plasma nitrates among men who had intakes total vegetables above the median in the HPFS cohort.