

Supplementary Data Legends

Title: Supplementary Data 1

Description: Genome-wide association results for urinary sodium excretion at $P < 1 \times 10^{-8}$.

Title: Supplementary Data 2

Description: Genome-wide association results for urinary potassium excretion at $P < 1 \times 10^{-8}$.

Title: Supplementary Data 3

Description: Urinary sodium lead SNPs and corresponding regional SNPs at $P < 1 \times 10^{-8}$.

Title: Supplementary Data 4

Description: Urinary potassium lead SNPs and corresponding regional SNPs at $P < 1 \times 10^{-8}$.

Title: Supplementary Data 5

Description: Urinary sodium SNPs associations and functional annotations at $P < 1 \times 10^{-8}$.

Title: Supplementary Data 6

Description: Urinary potassium SNPs associations and functional annotations at $P < 1 \times 10^{-8}$.

Title: Supplementary Data 7

Description: Association results for urinary sodium excretion lead SNPs after exclusion of medication use and renal diseases (N=262,531).

Title: Supplementary Data 8

Description: Association results for urinary potassium excretion lead SNPs after exclusion of medication use and renal diseases (N=262,531).

Title: Supplementary Data 9

Description: Association of urinary sodium loci with other traits in GWAS Catalog ($P < 5 \times 10^{-8}$).

Title: Supplementary Data 10

Description: Association of urinary potassium loci with other traits in GWAS Catalog ($P < 5 \times 10^{-8}$).

Title: Supplementary Data 11

Description: Phenotypes associated with urinary sodium loci within UK Biobank using GeneAtlas at $P < 1 \times 10^{-6}$.

Title: Supplementary Data 12

Description: Phenotypes associated with urinary potassium loci within UK Biobank at $P < 1 \times 10^{-6}$.

Title: Supplementary Data 13

Description: LD score regression between urinary sodium and other traits.

Title: Supplementary Data 14

Description: LD score regression between urinary potassium and other traits.

Title: Supplementary Data 15

Description: Association of urinary sodium loci with SBP and DBP within the UK Biobank study at $p < 5 \times 10^{-8}$.

Title: Supplementary Data 16

Description: Association of urinary potassium loci with SBP and DBP within the UK Biobank study at $P < 5 \times 10^{-8}$.

Title: Supplementary Data 17

Description: Association of urinary sodium and potassium loci with metabolites in phenoscanner ($P < 5 \times 10^{-8}$).

Title: Supplementary Data 18

Description: Association of urinary sodium and potassium loci with metabolites in Airwave using metabolon.

Title: Supplementary Data 19

Description: Summary of eQTL effects of urinary sodium SNPs ($P < 1 \times 10^{-8}$) from eQTL look up using GTeX.

Title: Supplementary Data 20

Description: Summary of eQTL effects of urinary potassium SNPs ($P < 1 \times 10^{-8}$) from eQTL look up using GTeX.

Title: Supplementary Data 21

Description: Ingenuity Pathway Analysis for genes near or eQTL with urinary sodium and potassium excretion.

Title: Supplementary Data 22

Description: Outlier test and effect estimates of urinary sodium loci used for Mendelian randomization analysis.

Title: Supplementary Data 23

Description: Outlier test and effect estimates of urinary potassium loci used for Mendelian randomization analysis.

Title: Supplementary Data 24

Description: Mendelian Randomization analysis for the potential causal effect of urinary sodium on BP and CVD using UK Biobank north vs. south & midland (at $P < 0.008$).

Title: Supplementary Data 25

Description: Mendelian Randomization analysis for the potential causal effect of urinary potassium on BP and CVD using UK Biobank north vs. south & midland (at $P < 0.008$).

Title: Supplementary Data 26

Description: Mendelian Randomization analysis for the potential causal effect of urinary sodium on BP using UK Biobank north vs. south & midland and on CVD using CARDIOGRAM. Focusing on loci involved in significant biologic functions.

Title: Supplementary Data 27

Description: Summary of association results for urinary sodium SNPs among African and Asian ancestries ($P < 9.8 \times 10^{-4}$).