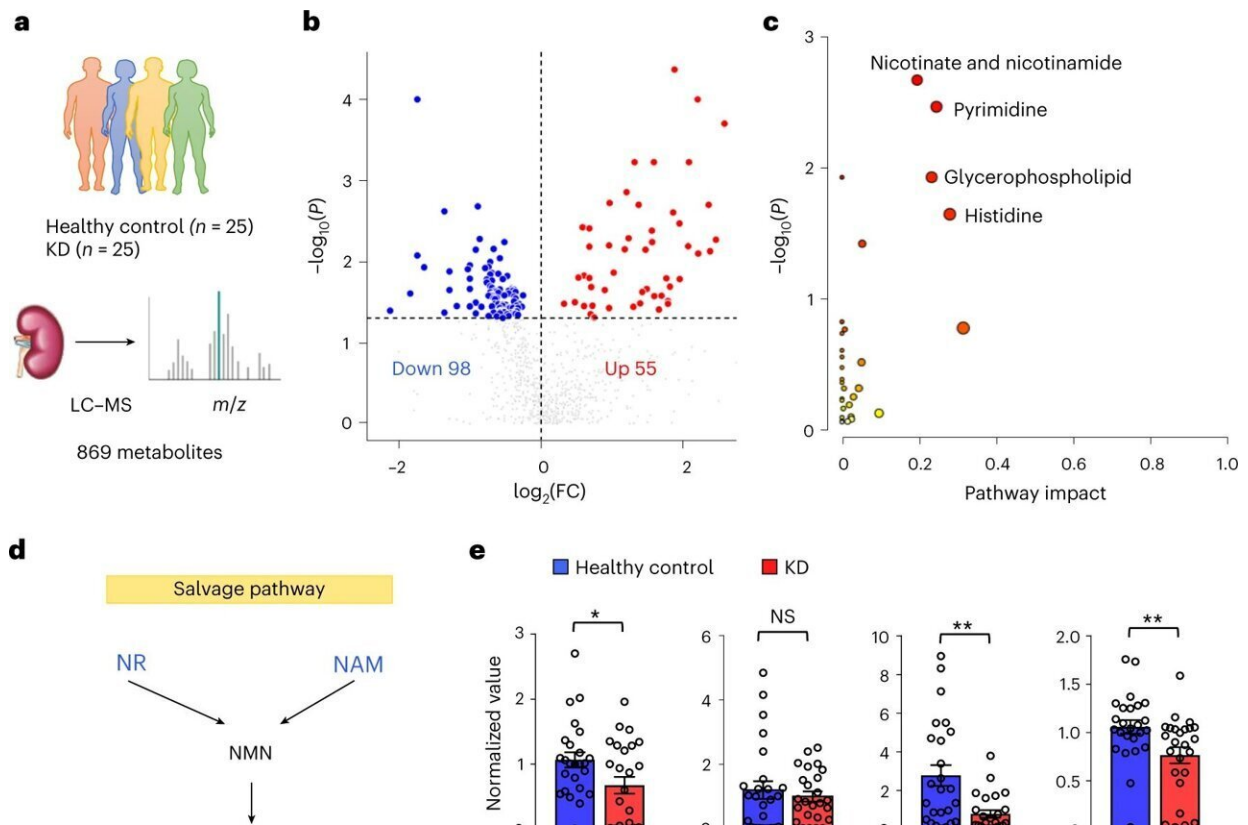# Scientists uncover protective role of NAD maintenance in kidney disease

March 22 2023

Integrated metabolomics and transcriptomics data analysis of human kidney samples. **a**, Total of 50 human kidney samples were collected for metabolomics analysis; including healthy controls ($n = 25$) and patients with KD ($n = 25$). **b**, Volcano plot of metabolites showing significant changes in human diseased kidneys. The x axis shows $\log_2$ fold change ($\log_2$FC). The y axis shows $-\log_{10}(P$ value). Color indicates metabolites significantly higher (red) or lower (blue) in human diseased kidneys. Welch's two-sided t-test was used to calculate P value. **c**, Metabolic pathways showing significant changes in diseased kidneys. The dot

color indicates the level of significance, the dot size indicates pathway impact. *P* value was calculated from the enrichment analysis in MetaboAnalyst. **d**, The simplified NAD salvage pathway. Blue indicates metabolites significantly lower in human diseased kidneys. **e**, The levels of NAD^+, NMN, NR and NAM in human kidneys (healthy control $n = 25$ and KD $n = 25$). *P

Citation: Scientists uncover protective role of NAD maintenance in kidney disease (2023, March 22) retrieved 18 December 2023 from https://medicalxpress.com/news/2023-03-scientists-uncover-role-nad-maintenance.html