

## □ Screening of endogenous compound potentially applicable for estimation of effective renal plasma flow

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Renal plasma flow (RPF) is one of effective biomarkers for estimation of renal function. *p*-Aminohippuric acid (PAH) is clinically used to test effective RPF, but intravenous administration of PAH is required to use this biomarker. In addition, efficient renal secretion of this compound may not be suitable for renal failure patients. Thus, endogenous compound may be more practical for estimation of RPF, but has not yet been fully optimized. The aim of the present study is to identify candidate for endogenous RPF biomarker. PAH was intravenously infused in Sprague Dawley rats for 90 min, and plasma was collected from both femoral artery and renal vein at the end of the infusion. These samples were then subjected to untargeted metabolome analysis using LC-TOFMS to identify ions showing different intensity between circulating and renal venous plasma. In another experiment, renal arteries were ligated after start of the infusion, and plasma was collected at 60 and 90 min to pick up the ions showing increased peak intensity by the ligation. PAH and other 13 ions showed significantly higher peaks in circulating plasma and were increased by the ligation. Among them, *N*-methylnicotinamide and hippuric acid were identified, the former being previously used to estimate RPF in rats. Further studies are ongoing to validate them as RPF marker.