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IN BRIEF

BASIC RESEARCH

A physiological role for KCC3 and KCC4 in the kidney

KCl cotransporters help maintain cellular osmotic homeostasis, but little is known about their role in the kidney. Melo *et al*. report that two such cotransporters, KCC3 and KCC4, function in the proximal tubule and collecting duct, respectively. The authors analysed KCC3 and KCC4 mRNA and protein expression in the kidneys of rats and mice exposed to hyperglycaemia, a low salt diet, metabolic acidosis, or low and high potassium diets. Changes in protein and mRNA levels under these conditions were consistent with a role for KCC3 in glucose resorption and KCC4 in salt reabsorption and acid secretion in the kidney.

Original article Melo, Z. *et al.* Molecular evidence for K^+:Cl^- cotransporters role in the kidney. *Am. J. Physiol. Renal Physiol.* doi:10.1152/ajprenal.00390.2013

IMAGING

ECM goes down a STORM in the glomerulus

Using a new high-resolution imaging technique—sub-diffraction resolution stochastic optical reconstruction microscopy (STORM)—researchers have determined the molecular organization of extracellular matrix (ECM) proteins in the glomerular basement membrane at a nanoscale level. The authors used STORM to analyse the distribution of agrin, laminin and collagen IV subdomains in mice and humans. Changes in distribution were seen in a mouse model of Alport syndrome, suggesting that STORM might be useful for detecting subtle protein changes in kidney diseases.

Original article Suleiman, H. *et al*. Nanoscale protein architecture of the kidney glomerular basement membrane. *eLife* doi:10.7554/eLife.01149.001

HYPERTENSION

Reducing cardiovascular events by lowering BP in CKD

Lowering blood pressure (BP) by any means can reduce cardiovascular events in patients with moderately reduced estimated glomerular filtration rate (eGFR), say researchers. The Blood Pressure Lowering Treatment Trialists' Collaboration conducted a meta-analysis of individual data from 30,295 patients with an eGFR <60 ml/min/1.73 m^2. For every 5 mmHg reduction in BP the risk of cardiovascular events decreased by one-sixth (hazard ratio, 0.83; 95% CI 0.76–0.90). The authors note that the data do not support any particular mode of BP reduction.

Original article Blood Pressure Lowering Treatment Trialists' Collaboration. Blood pressure lowering and major cardiovascular events in people with and without chronic kidney disease: meta-analysis of randomised trials. *BMJ* doi:10.1136/bmj.f5680

TRANSPLANTATION

Comorbidities in living kidney donors have increased

35% of all kidneys transplanted in the USA are now from living donors. Schold *et al*. analysed the characteristics of 69,117 individuals from the National Inpatient Sample, who donated kidneys between 1998 and 2010. They report that although perioperative complications have declined since 1998, the incidence of comorbid conditions—particularly hypertension—has increased. The authors highlight the need for continuous monitoring of living kidney donors.

Original article Schold, J. D. *et al.* Comorbidity burden and perioperative complications for living kidney donors in the United States. *Clin. J. Am. Soc. Nephrol.* **8**, 1773–1782 (2013)