Special Issue

Developmental Origins of Kidney Disease and Targeted Therapeutics

Message from the Guest Editors

During vertebrate embryogenesis, kidneys contain progenitor populations which fuel the formation of nephrons and the collecting duct network. Alterations in these events can lead to various renal malformations. The formation of mature nephrons is particularly critical, as these structures are the core functional units of the kidney that cleanse the blood and maintain fluid homeostasis. The absence or perturbation of nephrogenesis can cause congenital birth defects. Postnatally, nephron damage can initiate devastating acute and/or chronic conditions. Nephron composition is complex where over a dozen differentiated cell types are organized in distinct regions, each performing specialized physiological roles. Single-cell sequencing technologies have aided in characterizing and tracking these nephron cell types during kidney ontogeny and disease progression. This Special Issue will provide an open access opportunity to publish research and review articles related to the in vivo and in vitro development of nephrons.

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. Cells encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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