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Drosophila Model in Molecular Mechanisms of Kidney Dysfunction

Guest Editor:

Dr. Junyi Zhu

School of Medicine, University of
Maryland, Baltimore, MD, USA

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Message from the Guest Editor

Kidney dysfunction, resulting from various diseases, presents a significant global health challenge, affecting millions worldwide. The burden of this dysfunction is notably severe, given the high treatment costs and its profound impact on quality of life. Therefore, a deep understanding of the molecular mechanisms and the identification of potential drug targets are crucial for advancing research in kidney dysfunction.

In *Drosophila*, kidney and excretory functions are localized to the following three main tissues: the transporting renal (Malpighian) tubules, the reabsorptive hindgut, and the nephrocytes. This structural and functional similarity makes *Drosophila* an invaluable model for relating kidney phenotypes to human conditions.

In this Special Issue, we will apply *Drosophila* to explore the molecular mechanisms underlying kidney dysfunction; use *Drosophila* to model various kidney diseases, including nephrotic syndrome, diabetic nephropathy, and APOL1-associated kidney diseases; identify candidate genes for kidney diseases; investigate kidney development processes; and explore potential mechanisms for maintaining kidney function.



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Special Issue



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Contact Us

Cells Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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