Cite this as: Qizheng WANG, Jun LU, Ke FAN, Yiwei XU, Yucui XIONG, Zhiyong SUN, Man ZHAI, Zhizhong ZHANG, Sheng ZHANG, Yan SONG, Jianzhong LUO, Mingliang YOU, Meijin GUO, Xiao ZHANG. High-throughput "read-on-ski" automated imaging and label-free detection system for toxicity screening of compounds using personalised human kidney organoids[J]. Journal of Zhejiang University Science B, 2022, 23(7): 564-577. http://doi.org/10.1631/jzus.B2100701

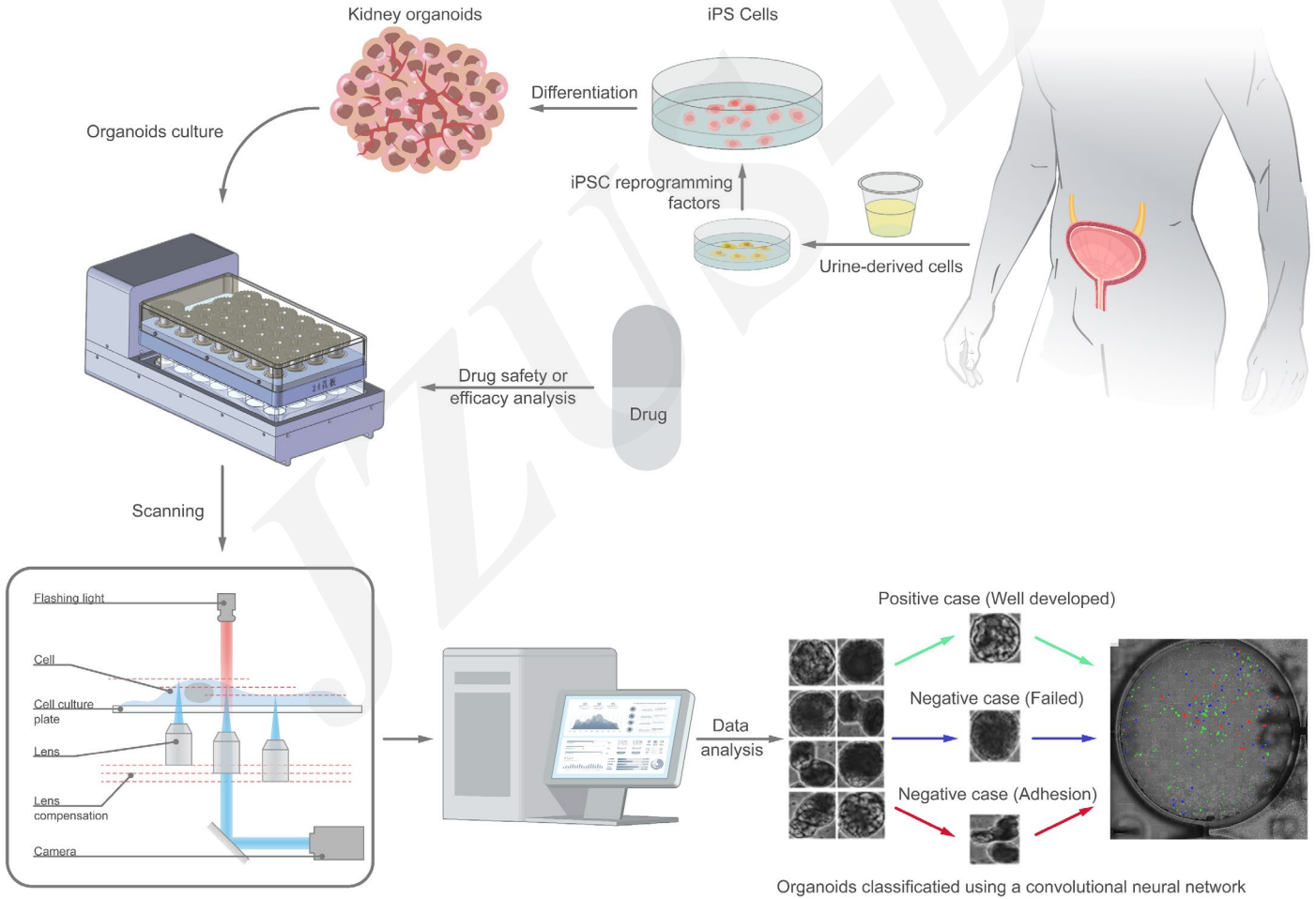
High-throughput "read-on-ski" automated imaging and label-free detection system for toxicity screening of compounds using personalised human kidney organoids

Key words: Kidney-Organoids, High-Throughput Microscopy, Nephrotoxicity, Machine Learning

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Research Summary

This article present a “read-on-ski" automated imaging and label-free detection system for toxicity screening using personalised human kidney organoids.



Innovation points

- **This system uses the latest hardware and software technology and a novel controlling mechanism with the autofocus technique that fulfils the requirements for high speed and sub-micron resolution.**

- **The acquired images can be processed via machine learning-based classification and segmentation algorithms, and the toxicity in kidney organoids was determined with 95% accuracy.**

- **This novel development opens the door for further application of scaled-up screening using organoids in basic research and drug discovery.**

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