New tools and methods help revive ancient traditional Chinese medicine

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Traditional Chinese medicine (TCM) has been playing a very important role in health protection and disease control for thousands of years. The key problem in the TCM research is how to use new tools help revive ancient TCM. Fortunately, the rapid development of new technology platforms provides a methodological basis for deep understanding the essence of TCM. Presently, its widespread use would significantly advance the field of TCM by bridging the gap between Chinese and Western medicine. One example is a famous TCM herbal formulae Yinchenhao Tang, recorded in “Shanghanlun” that is a classic resource on TCM written by Zhongjing Zhang (150-215 A.D.). However, its precise mechanism and drug candidates remain very complex and poorly understood. 45 compounds in YCHT and 21 compounds in vivo were identified by the established UPLC-MS fingerprinting method. Chinmedomics was incorporated to analyzing the pharmacological effects of YCHT, and found 32 marker metabolites in vivo. By correlation analysis of these compounds and marker metabolites, three components (D, G, R) were found as drug candidates. At the levels of the proteome and metabolome, the underlying molecular mechanisms were explored, and found that DGR activated an array of factors that are involved in energy, amino acid, nucleotide, fatty acid, cofactor and vitamin metabolism. DGR targets not only immunity and metabolism but also targets key regulatory pathways, thereby helping to restore the normal function. It may provide a promising design derived from TCM. Warranted or not, enthusiasm for the new techniques and methods is irrepressible for millennia-old TCM.

Biography

Xijun Wang has completed his PhD at the age of 35 years from Japan Hokkaido College of Pharmacy (1997). He is vice president at the Heilongjiang University of Chinese Medicine, China. He has published 120 articles in peer-reviewed international journals and has been serving as an editorial board member of repute. His researches focus on Serum pharmacochemistry of TCM, Metabolomics, and Chinmedomics. He won the second prize in 2002 National Science and Technology Progress Award; ‘Chinmedomics study of Chinese medicine formulae’ won the first prize of Science and Technology in 2012 China Society of Integrated Traditional Chinese and Western Medicine.

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