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Editorial

Biomedicine offers advanced medical findings

It is well established that traditional Chinese medicine (TCM) not only plays a key role in Eastern societies, but also looms as a major medical alternative in the West. Furthermore, mounting evidence indicates that the herbs used in TCM are capable of important pharmacological effects. This has led to the development of Chinese herbal medicines, which are also known as Chinese materia medica (CMM). The database regarding the molecular targets, metabolic pathways, and herb-drug interactions in CMM has recently been enriched and improved, making investigations of CMM for current and future clinical therapies both evident and attractive. It is a great pleasure to introduce the second issue of this journal that focuses on the contributions of CMM.

Several articles herein cite new findings or summarize recent evidence that bolsters the significance of CMM. Medicinal herbs or plants like *Allium sativum* L., *Angelica sinensis*, *Plantago major* L., *Thymus vulgaris*, and *Ligustrum lucidum* F. have been widely applied to prevent and remedy infections, the common cold, heart disease, diabetes, immune disorders, and cancer. The multiple medical benefits of these herbs and plants emanate from components such as allyl methyl trisulfide, butylidenephthalide, diallyl trisulfide, ursolic acid, and pentacyclic triterpenes. The mechanisms of these compounds can be partially explained by, but not limited to, antioxidative, -inflammatory, -glycative and -proliferative activities. Butylidenephthalide, a major component of *A. sinensis*, can cross the blood-brain barrier and could potentially be used to combat brain cancer. *A. sativum* L. contains organosulfur compounds that modulate drug-metabolizing enzymes and membrane transporter activities; thus, it could play a leading or auxiliary role in the metabolism of medicinal herbs. Triterpenes, via their antiglycative activities, may be effective agents that could prevent or attenuate pathological progression in glycation-associated diseases such as diabetes and aging. These review articles elucidate the active components, functions, possible modes of action, and potential applications of these herbs and plants.

In addition, the whole genome expression profiles of some herbs have been explored in past decades, yielding solid biomedical evidence in support of the functions and value of

these herbs; most notably, studies on genomic expression could explain their pharmacological effects and mechanisms (i.e., why and how an herb works). Furthermore, the genetic profiles of herbs could be also used for species selection, quality control, and cultivation management when they are planted. Thus, a concise review regarding the development of the microarray-based gene expression database of CMM is welcomed as a bridge linking traditional CMM knowledge and new scientific evidence.

Obesity is a crucial risk factor in the development of heart failure. The activation of cardiac Fas- and mitochondria-dependent apoptotic pathways deteriorates molecular, cellular, and even cardiac tissue functions, which in turn promote cardiovascular mortality. Obviously, management of excessive weight requires more medical attention. Susceptibility to oral cancer is higher in certain persons with nonhomologous end-joining genes. The development of personalized medicine is increasingly focused on special diagnostic techniques, while genetic therapies are currently undergoing redesigns to satisfy patient requirements. Because these topics are so vital to personalized medicine, experts in these fields are invited to discuss their thoughts.

This journal aims to supply the most up-to-date information in the field of biomedicine. All of the members of our editorial board strive to attain this goal. We appreciate all suggestions and comments. Finally, researchers, scholars, and experts are welcome to share their research and clinical findings with us. This journal looks forward to receiving valuable manuscripts.

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2211-8020/\$ – see front matter
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[doi:10.1016/j.biomed.2012.02.001](https://doi.org/10.1016/j.biomed.2012.02.001)