

"LINKING" WITH PEOPLE & SOCIETY

One of the many goals of the company is to develop and update the knowledge base of its staff, particularly the R & D personnel. One such avenue is to avail of the experience and knowledge of experts in the field. The lecture given by Dr De-an GUO at the company Auditorium to the researchers of Link Natural and other interested persons, was organized in pursuance of this goal. A brief review of his lecture is given below

QUALITY- ORIENTED RESEARCH OF TRADITIONAL CHINESE MEDICINE

By De-an GUO, Ph.D.

Reviewed by Achala Liyanage

Traditional Chinese Medicine (TCM) is an extremely complex system with hundreds of or even thousands of chemical components. Hence, it is a great challenge to establish the quality control standards for such a complex TCM herbal system. The first challenge would be to clarify the chemical composition of the herbs or herbal formulas. Secondly, the active or effective components should be clear in order to establish the chemical markers for assay. Thirdly, translation from the basic research results to the feasible quality standards should be performed by setting up a research model. As to the above-mentioned challenges, we have made a great endeavor, in the last decade, to perform chemical, metabolic and biological analyses for TCM complex system to aim at elaborating scientific and feasible quality standards of TCM herbal medicines and their preparations. A series of chemical analytical methods including fingerprinting have been developed for the holistic analysis of multiple component TCM system including multiple marker quantification of single herbs or herbal combinations. Metabolic analysis for TCM herbal medicines also plays an important role for clarifying the active components of TCM complex systems. Metabolic fingerprint profiling method was developed for a number of typical Chinese herbs including Licorice and Chinese Salvia. Advances in high-throughput 'omics' technologies to measure changes of genes, proteins, and other biomolecular components in complex biological

systems have dramatically revolutionized research of traditional Chinese medicine. Proteomics techniques such as 2-DE and nano-LC-MS/MS were used in our lab to study the mechanism of TCM including *Salvia miltiorrhiza*, *Ganoderma lucidum*, etc. On the basis of the above mentioned methods and techniques developed, comprehensive quality standards model has been established for TCM by taking some TCM herbs or preparations as exemplified cases. Finally, the comprehensive quality monographs of several above-mentioned herbs were elaborated and adopted by Chinese Pharmacopoeia and United States Pharmacopoeia.

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