



Good Practice in Traditional Chinese Medicine Research in the Post-genomic Era

GP-TCM

D2.15

Review papers published in scientific journals





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1



PUBLICATION IN SPECIAL ISSUE OF JOURNAL OF **ETHNOPHARMACOLOGY**

The publication "The potential of metabolic fingerprinting as a tool for the modernisation of TCM preparations" was compiled in late summer and fall 2011 and was based on the previous work of WP2, mainly represented by the deliverables D2.5, D2.9 and D2.10. It contains the central outcomes of WP2 as Further details are given in Figure 1.

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The potential of metabolic fingerprinting as a tool for the modernisation of TCM preparations

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ABSTRACT

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A vast majority Chinese herbal medicines (CHM) are traditionally administered as individually prepared water decoctions (tang) which are rather complicated in practice and their dry extracts show technological problems that hamper straight production of more convenient application forms. Modernised extraction procedures may overcome these difficulties but there is lack of clinical evidence supporting their therapeutic equivalence to traditional decoctions and their quality can often not solely be attributed to the single marker compounds that are usually used for chemical extract optimisation. As demonstrated by the example of the rather simple traditional TCM formula Danggui Buxue Tang, both the chemical composition and the biological activity of extracts resulting from traditional water decoction are influenced by details of the extraction procedure and especially involve pharmacokinetic synergism based on coextraction. Hence, a more detailed knowledge about the traditional extracts' chemical profiles and their impact on biological activity is desirable in order to allow the development of modernised extracts that factually contain the whole range of compounds relevant for the efficacy of the traditional application. We propose that these compounds can be identified by metabolomics based on comprehensive finger-print analysis of different extracts with known biological activity. TCM offers a huge variety of traditional products of the same botanical origin but with distinct therapeutic properties, like differentially pro-cessed drugs and special daodi qualities. Through this variety, TCM gives an ideal field for the application of metabolomic techniques aiming at the identification of active constituents © 2012 Elsevier Ireland Ltd. All rights reserved.



2 SKETCHED PUBLICATIONS

The work of WP2 was continuing after submission of the aforementioned publication of WP2 and hence the later results of WP2's were not taken into account. Furthermore, WP2 had generated or collected information that was not feasible to be implemented in this publication and finally WP2's work has indicated fields that were not covered by the thematic scope given through the consortium's deliverables in detail.

Consequently, WP2 participants agreed in further dissemination activities. First discussions took place between the WP2 participants that attended the GP-TCM 3rd AGM in Rolduc and the GP-TCM conference in Leiden, respectively. The following publication-projects were sketched:

1. One or two reviews about the impact of Co-extraction on extract composition and/or pharmacokinetic and/or pharmacodynamic synergism in herbal medicines.

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- 2. Review(s) utilizing the plant species data collected by WP1 and WP2 (e.g. for D2.10). We consider publishing the overall results of this survey (related to Good Practice) and/or reviews related to particular plant species.
- 3. Eventually Review about the impact of drying, wet-cutting and soaking of drug material in cold water prior to extraction.

WP1 and WP2 have agreed to organize another joint meeting in June 2012 to draft a detailed workplan for these publications including allocation of tasks and input from other WPs.