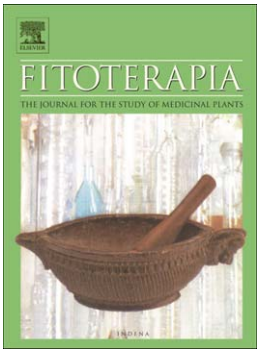

Rational quality assessment procedure for less-investigated herbal medicines: case of a Congolese antimalarial drug with an analytical report

Dieudonné Tshitenge Tshitenge, Karine Ndjoko Ioset, José Nzunzu Lami, Josaphat Ndelo-di-Phanzu, Jean-Pierre Koy Sita Mufusama, Gerhard Bringmann

PII: S0367-326X(16)30055-7
DOI: doi: 10.1016/j.fitote.2016.03.012
Reference: FITOTE 3373

To appear in: *Fitoterapia*

Received date: 31 January 2016
Revised date: 9 March 2016
Accepted date: 12 March 2016

Please cite this article as: Dieudonné Tshitenge Tshitenge, Karine Ndjoko Ioset, José Nzunzu Lami, Josaphat Ndelo-di-Phanzu, Jean-Pierre Koy Sita Mufusama, Gerhard Bringmann, Rational quality assessment procedure for less-investigated herbal medicines: case of a Congolese antimalarial drug with an analytical report, *Fitoterapia* (2016), doi: 10.1016/j.fitote.2016.03.012

Rational quality assessment procedure for less-investigated herbal medicines: case of a Congolese antimalarial drug with an analytical report

Dieudonné Tshitenge Tshitenge [a,b], Karine Ndjoko Ioset [a], José Nzunzu Lami [b], Josaphat Ndelo-di-Phanzu [b], Jean-Pierre Koy Sita Mufusama [a,b], Gerhard Bringmann [a,*]

[a] *Institute of Organic Chemistry, University of Würzburg, Am Hubland, 97074 Würzburg, Germany*

[b] *Faculty of Pharmaceutical Sciences, University of Kinshasa, B.P. 212 Kinshasa XI, DR Congo*

* Corresponding author. Tel.: +49 931 318 5323; fax: +49 931 318 4755.

E-mail address: bringman@chemie.uni-wuerzburg.de (G. Bringmann).

ABSTRACT

Herbal medicines are the most globally used type of medical drugs. Their high cultural acceptability is due to the experienced safety and efficiency over centuries of use. Many of them are still phytochemically less-investigated, and are used without standardization nor quality control. Choosing SIROP KILMA, an authorized Congolese antimalarial phytomedicine, as a model case, our study describes an interdisciplinary approach for a rational quality assessment of herbal drugs in general. It combines an authentication step of the herbal remedy prior to any fingerprinting, the isolation of the major constituents, the development and validation of an HPLC-DAD analytical method with internal markers, and the application of the method to several batches of the herbal medicine (here KILMA) thus permitting the establishment of a quantitative fingerprint. From the constitutive plants of KILMA, acteoside, isoacteoside, stachannin A, and pectolinarigenin-7-*O*-glucoside were isolated, and acteoside was used as the prime marker for the validation of an analytical method. This study contributes to the efforts of the WHO for the establishment of standards enabling the analytical evaluation of herbal materials. Moreover, the paper describes the first phytochemical and analytical report on a marketed Congolese phytomedicine.

Keywords:

Herbal medicine

Fingerprinting

Authentication

Validation