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UHPLC-MS/MS analysis of extracts of *Sinningia magnifica* (Gesneriaceae) from seedlings cultivable *in-vitro*, callus and *in-nature*

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The *Sinningia magnifica* belong to Gesneriaceae family which comprises of around 150 genera and 3500 species, distributed in tropics and subtropics around the world. In Brazil, phytochemical studies with *Sinningia* reported the identification of phenolic glycosides, anthocyanins and anthraquinones with biological properties. The *in-vitro* micropropagation is a way of maintaining healthy and uncontaminated explants for tissue culture application. The aim is to use the explants of *S. magnifica* to target callus and cell culture in suspension, which has been an excellent alternative for the exploration of secondary metabolites. In this work, initially a comparison was made between *in-natura* plant, *in-vitro* cultured seedlings and callus, to detect differences and similarities by UHPLC-MS and parity with some compounds of our research group by UHPLC-MS/MS. Thus, fruits of *S. magnifica* were collected and opened to release the seeds in Murashige e Skoog, 1962 (MS) medium, and cultivated in a photoperiod of 16/8 light/dark, 26±1°C, with the leaves and the formation of calogenesis was induced with the use of growth hormones. Then, tubers and leaves of *S. magnifica in-nature* and *in-vitro*, and callus, which was dried at 40°C was collected, and subjected to the maceration with ethanol and determined the chemical composition by UHPLC-MS, and which was used in isolated compounds for comparison by UHPLC-MS/MS. The comparison showed common compounds and differences between the *in-natura* plant and the plant that grew in a controlled environment, as well as the callus, reinforced by the UHPLC-MS/MS analysis. Despite the positive results, further investigations are necessary to confirm the potential of this technique for the production of bioactive compounds and the real potential of the compounds for biological application.

Biography

Alessandra F Serain is currently a Pharmacist from the State University of Campinas and a PhD candidate with FAPESP scholarship, in the Biosciences and Technology Program of Bioactive Products of the DBV / IB - UNICAMP with the research project that seeks to perform a phytochemical study of two species of *Sinningia* for application in Photodynamic Therapy (PDT) in culture of human cells, and biotechnological study of plant cell culture. She has her experience of Scientific Initiation at BTPB-UNICAMP, 18 months with FAPESP scholarship, in the field of phytochemistry, PDT, essential oils and microbiological activity

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