Secondary Metabolite Content in *Fabiana imbricata* Plants and *in vitro* Cultures

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A rapid *in vitro* propagation system leading to the formation of shoots, calli, roots, cell suspensions and plantlets was developed for the Andean medicinal plant *Fabiana imbricata* (Solanaceae). Massive propagation of shoots and roots was achieved by the temporary immersion system (TIS), morphogenesis and maintenance of cell suspensions by standard *in vitro* culture techniques. Oleanolic acid (OA), rutin, chlorogenic acid (CA) and scopoletin content in aerial parts of wild growing *Fabiana imbricata* plants as well as in plantlets regenerated *in vitro*, callus cultures, cell suspensions and biomass, obtained by the TIS system was assessed by HPLC.

On a dry weight basis, the OA content in the aerial parts of the plant ranged between 2.26 and 3.47% while *in vitro* plantlets, callus and root cultures presented values ranging from not detected up to 0.14%. The rutin content of the samples presented a similar trend with maxima between 0.99 and 3.35% for the aerial parts of the plants to 0.02 to 0.20% for plantlets, 0.12% for cell suspensions and 0.28% for callus. Rutin was not detected in the roots grown by the TIS principle. The CA and scopoletin content in the aerial parts of *F. imbricata* ranged between 0.22–1.15 and < 0.01–0.55%, respectively. In the plantlets, the concentration of CA was 0.29 to 1.48% with scopoletin in the range 0.09 to 0.64% while in the callus sample, the CA and scopoletin content were 0.46 and 0.66%, respectively. A very different result was found in roots grown by TIS, where both OA and rutin were not detected and its main secondary metabolite, scopoletin was found between a range of 0.99 and 1.41% with CA between of 0.11 and 0.42%.

Key words: Fabiana imbricata, *in vitro* Propagation, Secondary Metabolite Content