

PP53. MANGIFERIN ACCUMULATION STIMULATED BY TISSUE CULTURE PROPAGATION AS COMPARED WITH WILD COLLECTION IN A MODEL OF FOUR *HYPERICUM* SPECIES

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Mangiferin is a xanthone C-glycoside, mainly obtained from different plant and fruit parts of the *Mangifera indica* species. Amongst the wide array of its therapeutical benefits are its anticancer, anti-inflammatory, antidiabetic, cardioprotective, antioxidative, antihyperlipidemic as well as neuroprotective and anti-obesity properties. Different xanthone compounds, as well as mangiferin and isomangiferin have also been reported in literature for some of the representatives of the *Hypericum* genus. However, the presence of mangiferin and isomangiferin in a given *Hypericum* species has been characterized with great variability amongst the different reports, demonstrating the occasional character of its availability and the presence of factors, still unknown, which determine its biogenesis. The present study aimed at elucidation of the potential of *Hypericum* species to serve as a mangiferin sources in a comparative model of wild collected and *in vitro* cultivated *Hypericum* species. *Hypericum calycinum*, *H. tetrapterum*, *H. perforatum* and *H. richeri* were collected from their wild habitats in Bulgaria and shoot cultures were developed from them. While in our experimental conditions none of the wild collected samples yielded mangiferin, its presence was detected in *H. perforatum* and *H. richeri* shoot cultures. Moreover, the stimulation of biomass formation, achieved by plant growth regulators treatment led to the stimulation of its accumulation.

Keywords: *Hypericum* species, *in vitro* cultures, mangiferin, *in situ* and *in vitro* accumulation, HPLC-DAD.

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