Secondary Metabolite Content in Rhizomes, Callus Cultures and *in vitro* Regenerated Plantlets of *Solidago chilensis*

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An *in vitro* culture system leading to the formation of callus and plant regeneration, starting from nodal sections and shoot tips, was developed for *Solidago chilensis* (Asteraceae). The content of the gastroprotective diterpene solidagenone as well as the phenolics chlorogenic acid (CA) and rutin was determined either in rhizomes from wild growing plants and in callus and in *in vitro* regenerated plantlets by analytical HPLC. Additionally, total phenolic and flavonoid content was assessed in plant samples, callus and cell suspensions. In terms of dry starting material, the percentual solidagenone content in nine *S. chilensis* samples ranged from 0.5–3.5% for rhizomes from wild growing plants, 0.1–0.3% for callus and 0.3% for an *in vitro* regenerated plantlet, respectively. The highest solidagenone contents were found in the wild plant during the late summer in the months of March and April (3.5–2.2%) while highest values for chlorogenic acid (0.5%) and rutin (0.4%) were detected in May, before senescence. The callus tissue and cell suspensions contained some 1.8–2.0 and 1.2% of total phenolics, respectively. CA was the main phenolic in the cell suspension while only traces were found in the callus. Rutin was not detected in the callus nor cell culture.

Key words: In vitro Propagation, Secondary Metabolite Content, *Solidago chilensis*