

Production of camptothecin in cultures of *Chonemorpha grandiflora*

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ABSTRACT

Background *Chonemorpha grandiflora* (Syn. *Chonemorpha fragrans* (apocynaceae) is an endangered medicinal plant. It is used in different preparations, such as sudarsanasavam and kumaryasavam used in Kerala Ayurvedic system. *C. grandiflora* is used for the treatment of fever and stomach disorders. Phytochemical investigations have revealed the presence of steroidal alkaloids, such as chonemorphine and funtumafrine in *C. grandiflora*. Camptothecin, a well-known anticancer alkaloid has been detected in ethanolic extracts of stem with bark and callus cultures derived from *C. grandiflora*. **Methods** callus cultures of *C. grandiflora* were raised on Murashige and Skoog's medium supplemented with 2, 4-D. Stem with bark and callus were used for phytochemical analysis mainly the alkaloids. Detection and identification of camptothecin was carried out using thin-layer chromatography (tlc), high-performance thin-layer chromatography, (HPTlc) and high-performance liquid chromatography (HPlc). **Results** An important anticancer alkaloid, camptothecin was detected in ethanolic extracts of stem with bark and callus cultures of *C. grandiflora*. camptothecin content was 0.013 mg/g in stem with bark and 0.003 mg/g in callus. **Conclusion** This is the first report on in vivo and in vitro production of camptothecin in *C. grandiflora*. Camptothecin is known to occur only in six plant sources so, alternative sources for camptothecin are needed. thus of *C. grandiflora* could be a new promising alternative source of camptothecin.

KEYWORDS

apocynaceae . callus . camptothecin . *Chonemorpha grandiflora*

REFERENCES