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Regeneration of medicinally important plant *Centella asiatica* L. by somatic embryogenesis

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The present investigation aimed *Centella asiatica* L. is a small herbaceous plant belonging to Apiaceae (Umbelliferae) family and is native to India. It is used as a medicinal herb in Ayurvedic medicine for high memory enhancing activity. The herb was reported as antidiabetic, antiviral, antiulcer, antibacterial and antitumor. This paper reports the induction of somatic embryogenesis. An efficient protocol was designed for successful regeneration of *Centella asiatica* (L.) from *in vitro* derived callus through somatic embryogenesis. Leaf explants were isolated and cultured on MS medium fortified with 0.5, 1.0, 1.5 and 2.0 mg/l 2,4- D. The callus formed, compact, light green to greenish colored. It was observed that the increased concentration of 2,4- D induced the formation of embryoids. Some differences in the morphology of callus such as changes in the color and texture was also observed with increasing the concentration of 2,4- D. Maximum frequency of callus induction was noticed on 2.0 mg/l 2,4- D. The calli were separated and further cultured on fresh media containing BAP alone and in combination with auxins such as NAA and IAA. The maximum shoots were recorded on KIN and BA 1.5, 2.0 mg/l with combination of 0.2 mg/l IAA and NAA. The well regenerated healthy micro shoots were separated and transferred to rooting medium for rooting. MS medium supplemented with IAA 2.0, mg/l and NAA 2.0 showed maximum rooting frequency. The well rooted plants were transferred to field conditions.

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