

## Regeneration of Plantlets via Direct Somatic Embryogenesis from Different Explants of *Murraya koenigii*

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**Abstract :** An in vitro plant regeneration system was developed via direct somatic embryogenesis from different seedling explants of an important medicinal plant *Murraya koenigii* (L) Spreng. Cotyledons (COT), Hypocotyle (HYP)(10 to 15 mm) and Root (RT) segments (10 to 20 mm) were excised from 60 days old seedlings as explants. The somatic embryos induction was achieved on MS basal medium augmented with different concentrations of BAP 1.33 to 8.40  $\mu$ M and TDZ 1.08 to 9.82  $\mu$ M. The globular embryos originated from cut ends and entire surface of the root, hypocotyle explants and margins of cotyledons within 30-40days. The percentage of somatic embryos induction per explant was significantly higher in HYP explants ( $94.21 \pm 5.77\%$ ) in the MS basal medium supplemented with 6.20  $\mu$ M BAP and 8.64  $\mu$ M TDZ. The highest rate of conversion of torpedo, heart and cotyledonary stages from globular stage was obtained in MS medium supplemented with 8.64  $\mu$ M TDZ. The matured somatic embryos were transferred to the MS basal medium without PGRs. Highest 88% of the matured embryos were germinated on transfer to the PGR free medium where they grew for a further 3-4 weeks. Out of seventy six hardened plants seventy (92%) plantlets were found healthy under field conditions.

**Keywords :** *Murraya koenigii*, somatic embryogenesis, thidiazuron, regeneration, rutaceae

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