P 83 Somatic Embryogenesis and Plant Regeneration from Mature Embryos of *Schizandra chinensis* Baillon

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Objectives

Schizandra chinensis is an important medicinal plant. Its fruits are used as health drinks as well as drug materials. The present study was carried out to develop *in vitro* mass propagation method via somatic embryogenesis from mature zygotic embryos of *Schizandra chinensis* Baillon.

Materials and Methods

1. plant material: mature zygotic embryos of *Schizandra chinensis* Baillon.
2. somatic embryo induction: embryogenic calli of *Schizandra chinensis* were induced on MS and MS Ⅱ 1 medium containing 0.1-4.0 mg/L 2,4-D or 0.1-4.0 mg/L 2,4-D with 0.1-1.0 mg/L BAP for 8 weeks. embryogenic calli were transfered to MS and MS Ⅱ medium without plant growth regulators.
3. plant regeneration: somatic embryos were transfered to MS medium without plant growth regulators, MS medium containing 0.2, 0.5 mg/L GA_3 and 0.1, 0.5 mg/L BAP individually.

Results and Discussion

The callus induction frequency was high in the individual supplement of 0.5 and 1.0 mg/L 2,4-D with MS Ⅱ medium. The combined supplement of 1.0 mg/L 2,4-D and 0.25 mg/L BAP, or 2.0 mg/L 2,4-D and 0.1 mg/L BAP with MS Ⅱ medium induced callus more efficiently than any other supplement.

The highest frequency (45%) of embryogenic callus induction was obtained when zygotic embryos were cultured on MS Ⅱ medium supplemented with 2.0 mg/L 2,4-D and 0.1 mg/L BAP. Individual supplement of 2,4-D did not induce embryogenic callus.

Somatic embryo development was higher with a frequency of 85.7% when embryogenic calli were cultured on the MS medium without plant growth regulators than in the MS Ⅱ medium without plant growth regulators.

The frequency of shoot formation was 20%, 10% respectively when somatic embryos were cultured on MS medium containing 0.1 mg/L BAP, 0.2 mg/L GA_3 individually while the frequency of root formation was 33.3% when ones were cultured on 1/2 MS medium without plant growth regulators

[1]MS Ⅱ is Merkle and Sommer's (1968) modified medium which consists of Blaydes'(Witham et al. 1971) major salts, Brown's minor salts(Sommer and Brown 1980), Murashige and Skoog's iron and Gresshoff and Doy's (1972) vitamins.

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