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포인세티아 미숙 적색 포엽배양에 의한 체세포배 발생 및 식물체 재분화

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Somatic Embryogenesis and Plant Regeneration from Immature Red Bract Culture of Poinsettia (*Euphorbia pulcherrim*)

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Objectives

The aim of this study was to find an efficient, rapid and reliable method for plant regeneration through somatic embryogenesis using immature red bract culture of *Euphorbia pulcherrim*

Materials and Methods

1. Plant Materials; Potted plants of *Euphorbia pulcherrim* grown in glass house of Chonbuk Nat'l University
2. Medium and culture conditions; Immature red bracts of *Euphorbia pulcherrim* were cultured on Murashige and Skoog(1962) basal medium containing 2,4-D, NAA and BA. Produced somatic embryos were isolated and subcultured on MS media without plant growth regulators. All explants were incubated at 25 +1℃ and in 16-h photoperiod.

Results and Discussion

Induction of embryogenic calli and somatic embryos

Callus induction efficiency was higher in MS medium with NAA and BA than

medium with 2,4-D and BA. The best combination for inducing callus was 0.5 mg/L NAA and 1.0 mg/L BA. In this combination, cultured explants were produced compact and yellowish callus. Three month later, some calli produced embryos on media with 0.5-3.0 mg/L NAA and BA(0.5-3.0 mg/L), the best production of compact and yellowish calli and embryos was on MS medium with 0.5 to 1.0 mg/L NAA and 1.0 mg/L BA, respectively.

Germination / Conversion

Somatic embryos were capable of germination and conversion into plants. The conversion percentage was approximately 5%. The morphology of embryos affected the growth habit of plants following conversion. When the cotyledonary embryos and plantlets obtained in 0.1 mg/L 2,4-D and 1.0 mg/L BA or 0.5 mg/L NAA and 1.0 mg/L BA were transferred onto medium containing 1.0 mg/L each of NAA and BA, they grew and developed normally. The highest shoot regeneration frequency(an average of 20 shoots per cotyledon) was obtained using the MS media without plant growth regulators.