(05-2-33)

Organogenesis and Somatic Embryogenesis in *Catharanthes roseus*

Dhandapani Murugesan, DooHwan Kim, Seung Beom Hong*

Department of Molecular Biotechnology, Konkuk University, Seoul 143-701, South Korea

Objectives

We have standardized the protocols for organogenesis and somatic embryogenesis of Madagascar periwinkle (*Catharanthes roseus*) using five different explants.

Materials and Methods

1. Material

Plant – Mature seeds and *in vitro* plants of *Cathanranthes roseus* cv. Little Bright Eye.

2. Methods:

The seeds were surface-sterilized and cultured onto the 1/2 MS medium for germination. After two months, stem internode, shoot tip and petiole were cut from the seedlings and cultured onto the MS media containing 0.25-1 mg/l 6-benzylaminopurine (BAP), 0.25- 1 mg/l Naphthalene acetic acid (NAA) and 0.055-2.2 mg/l Thidiazuron (TDZ). Etiolated hypocotyls were excised from 10-day old seedlings and cultured in the media containing the same above hormone combinations. Mature embryo was dissected from the seeds and inoculated in the media containing 0.055-2.2 mg/l of TDZ.

Results and Discussion

Tissue culture conditions for the regeneration of *Cathanranthes roseus* via organogenesis and somatic embryogenesis were optimized using varying levels of cytokinin/auxin ratio and TDZ. Shoots were formed from the stem internode, shoot tip and petiole in media containing 1 mg/l NAA, 0.5 mg/l BAP and 0.5 mg/l TDZ. Shoots were transferred to MS media for rooting. These explants formed somatic embryos in the media containing 1.62 mg/l TDZ. Somatic embryos were regenerated and rooted on 1/2 MS media.

The hypocotyls formed callus at their cut ends initially, and later shoots were regenerated from the callus via organogenesis in MS media supplemented with 1 mg/l NAA and 0.5 mg/l BAP. Mature embryos formed directly somatic embryos on MS media supplemented with 1.62 mg/l TDZ. Embryos were transferred to 1/2 MS media for regeneration and rooting.

**Corresponding author* : Seung Beom Hong, Tel : 02-2049-6053, E-mail : dsbhong@konkuk.ac.kr