

Conference Paper

Somatic Embryo from Basal Leaf Segments of *Vanda tricolor* Lindl. var. *pallida*

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Abstract

Somatic embryogenesis is one of techniques in plant micropropagation. The induction of somatic embryogenesis through callus phase was done on *Vanda tricolor* Lindl. var. *pallida*. This study aimed to find out the effect of naphthalene acetic acid (NAA) and benzyl amino purine (BAP) in inducing somatic embryogenesis via callus on the basal leaf segments of *Vanda tricolor* Lindl. var. *pallida*. The half-strength of Murashige and Skoog (\cdot MS) medium with 1 % sucrose, incorporated with (0.02 mg \cdot L⁻¹ and 0.05 mg \cdot L⁻¹) NAA and also 0.01 mg \cdot L⁻¹ BAP were used in this experiment. The best medium for embryogenic callus formation and proliferation was 0.05 mg \cdot L⁻¹ NAA in combination with 0.01 mg \cdot L⁻¹ BAP. The formation of somatic embryos occurred 30 d after the calluses were cultured on to $\frac{1}{2}$ MS without the addition of plant growth regulator and subsequently formed shoots.

Keywords: basal leaf segments; somatic embryogenesis; *Vanda tricolor* Lindl. var. *pallida*.

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1. Introduction

Vanda is one of orchid genera that consist of about 50 species. This genus is popular because its flower has an attractive color, big size and in particular species, it has a fragrant aroma. Until today, the reproduction of orchid is carried out by using semi-conventional method, where the orchid is crossed with itself or with the other plant but still is the same species. After that, the resulting seeds are usually cultured on the culture media and then grown until they reach the ideal condition for acclimatization. This procedure cause the offsprings are different from the parental. In addition, the time needed to produce the offsprings is too long.

One method for rapid propagations of orchid is the production of protocorm-like bodies (PLBs). The success of PLBs production is depend on the explants type, plant genotype, and plant growth regulator in the culture medium. Somatic embryos on orchid have been proven to have the same structure as protocorm, so that they are called protocorm-like bodies [1].

The process in which the somatic cells develop into embryos without performing gamete fusion is called somatic embryogenesis [2]. Somatic embryo not only can

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