

瘤毛獐牙菜体细胞胚胎 发生过程中生理生化特性研究^{*}

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摘要:目的 从生理生化层面探讨瘤毛獐牙菜体细胞胚胎发生过程中生理生化指标与愈伤组织生长发育的关系,并确定愈伤组织最佳继代时间。方法 自转接分化培养基起,每隔 7 d 测定愈伤组织内可溶性糖、可溶性蛋白含量;超氧化物歧化酶(SOD)、过氧化物酶(POD)、多酚氧化酶(PPO)活性。结果 瘤毛獐牙菜体细胞胚胎发生过程中,愈伤组织内可溶性糖、可溶性蛋白含量在 35 d 左右达到最高值;SOD、POD 活性整体呈上升趋势, PPO 在 14-35 d 间活性相对较低。结论 根据生理生化指标在体细胞胚胎发生过程中呈现出的变化趋势可推断愈伤组织的生长发育情况;愈伤组织最佳继代时间为 28-35 d。

关键词:瘤毛獐牙菜;体细胞胚胎;可溶性物质;SOD;POD;PPO

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Physiological and Biochemical Characteristics of Somatic Embryogenesis in *Swertia pseudochinensis*

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Abstract Objective: To study the relationship between physiological and biochemical indexes and callus growth and development during somatic embryogenesis of *swertia pseudochinensis* and determine the best subculture time of callus. **Method:** The contents of soluble sugar and protein, the activities of superoxide dismutase (SOD), peroxidase (POD) and polyphenol oxidase (PPO) in the callus were determined every 7 days from the transfer differentiation medium. **Result:** During somatic embryogenesis, the content of soluble sugar and soluble protein in callus reached the highest value in about 35 days; the activity of SOD and POD increased as a whole, and the activity of PPO was relatively low in 14-35 d. **Conclusion:** According to the trend of physiological and biochemical indicators in the process of somatic embryogenesis, the growth and development of callus can be inferred; the best subculture time of callus is 28-35 d.

Keywords *swertia pseudochinensis*; somatic embryogenesis; soluble substance; SOD; POD; PPO

中医认为肝主疏泄、主藏血,肝气不疏会引起两胁胀满,肝不藏血则导致崩漏出血^[1]。瘤毛獐

牙菜(*Swertia pseudochinensis* Hara)在北方地区被称作“肝炎草”,临床研究发现其具有保肝作用,是

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