

组织培养简讯

茶条槭悬浮培养体系的建立与没食子酸合成的优化条件

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摘要 初步建立茶条槭(*Acer ginnala*)细胞悬浮培养体系: 以茶条槭子叶为外植体, 接种于WPM培养基中, 对茶条槭愈伤组织进行诱导和继代培养。悬浮培养中, 每代增长指数达到11.6, 没食子酸含量达到1.518%。通过对比NT、IS、WPM、B5和MS培养基所含成分对茶条槭愈伤组织悬浮培养的影响, 综合考虑悬浮细胞的生长速率和有效成分的含量, 确定WPM为基本培养基。WPM培养基大量元素的浓度对细胞的生长和没食子酸的积累有显著影响, 其浓度越高, 促进作用越明显。3倍浓度的大量元素最有利于没食子酸的积累。蔗糖浓度为10 g·L⁻¹最适于没食子酸的积累, 浓度为30 g·L⁻¹最适于茶条槭细胞生长和没食子酸合成。

关键词 茶条槭 细胞生长 没食子酸 悬浮培养

Establishment of the Suspension Culture System and Optimization of Biosynthesis of Gallic Acid in *Acer ginnala*

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Abstract Suspension culture of *Acer ginnala* was established with cotyledons used as explants. WPM was used for callus induction and callus proliferation. In suspension culture, dry weight increased to 11.6 and gallic acid content to 1.518%. The effects of the media NT, IS, WPM, B5 and MS on growth and gallic acid content of *A. ginnala* in callus suspension culture were compared. WPM was best for growth of suspension cells and accumulation of gallic acid. The effect increased with the levels of major elements, and a three-fold increase in level of major elements gave the best result. Sucrose at 10 g · L⁻¹ was suitable for the accumulation of gallic acid, and 30 g · L⁻¹ was optimal for cell growth and production of gallic acid.

Keywords *Acer ginnala* cell growth gallic acid suspension culture

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