

论文

前体及真菌诱导子对银杏悬浮培养细胞产生银杏内酯B的影响

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摘要:

目的: 探索前体及真菌诱导子对银杏悬浮培养细胞产生银杏内酯B的影响。方法: 通过向培养基中补加前体及真菌诱导子, 考察它们对悬浮培养细胞生物量及银杏内酯B产量的影响。结果: 于培养基中添加100 mg.L<sup>-1</sup>异戊二烯及低浓度(10 mg.L<sup>-1</sup>, 50 mg.L<sup>-1</sup>)的 牛儿醇能提高GKB的产量, 分别比对照增加了69%, 13.8%和11.4%。从10种真菌诱导子中筛选出效果较好的日本根霉诱导子, 当添加浓度为5 mg GE.L<sup>-1</sup>, 诱导培养3 d时, 悬浮细胞的GKB产量比对照增加约1倍。结论: 在银杏悬浮细胞培养过程中, 添加前体物质及应用真菌诱导子是提高银杏内酯B的有效手段之一。

关键词: 前体; 诱导子; 悬浮细胞培养; 银杏内酯B; 银杏

EFFECTS OF PRECURSORS AND FUNGAL ELICITORS ON GKB PRODUCTION IN SUSPENSION CULTURED CELLS OF *GINKGO BILOBA* L.

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Abstract:

AIM: To investigate the effects of precursors and fungal elicitors on the GKB production in suspension cultured cells of *Ginkgo biloba* L. METHODS: Precursors and fungal elicitors were added to the media. Their effects on the biomass and GKB yields of the suspension of cultured cells were studied. RESULTS: The total GKB yields were enhanced 69%, 13.8% and 11.4% compared with the control by adding 100 mg.L<sup>-1</sup> of isoprene and low concentrations (10 and 50 mg.L<sup>-1</sup>) of geraniol in the medium, respectively. Of the 10 investigated fungal elicitors, mycelium extract of *Rhizopus japonicus* was found to be the best, and at the concentration of 5 mg GE.L<sup>-1</sup>, the GKB yield of suspension cells was doubled after the cells were induced for 3 days. CONCLUSION: Adding precursors in the media and applying fungal elicitors were both effective approaches to enhance GKB yields in the suspension culture cell of *Ginkgo biloba* L.

Keywords: fungal elicitors suspension cell culture ginkgolide B (GKB) *Ginkgo biloba* L. precursors

收稿日期 1999-07-07 修回日期 网络版发布日期

DOI:

基金项目:

通讯作者: 朱蔚华

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