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Contents of resveratrols in grape calli by several treatments

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Objectives

We investigated resveratrols contents in the calli of grape 'Kyoho' by treatments of phytohormones, quercetin and AgNO₃, and compared contents of flavonoid and anthocyanin in this calli by same treatments.

Materials and Methods

1. Material

Dried callus of 1mg was eluted with 1ml of methanol. This solution was injected into the HPLC system after filtering through a 0.22 μm membrane.

2. Methods:

Resveratrols were detected by using shimadzu HPLC system with two pumps, automated gradient controller, an injector, a UV detector. A multi step gradient method was applied, using methanol-acetic acid-water (10:2:88, %) mixture as solvent A, and methanol-acetic acid-water(90:2:8, %) mixture as solvent B at a flow rate of 3ml/min.

Results and Discussion

The resveratrols present in the callus of Kyoho were investigated under different conditions, such as phytohormones, quercetin and AgNO₃. In case of 10 μM phytohormones addition in B5 medium, the content of resveratrols by the phytohormones was greater in 10 μM BA but 10 μM 2,4-D lesser than that of phytohormone-free in B5 medium. Also, the contents of resveratrols were 4.3 μg/g with 1mg/ml IAA and 1.6 μg/g with 1mg/ml NAA. We are on going to find out the contents of resveratrols in calli by the quercetin and AgNO₃ addition.

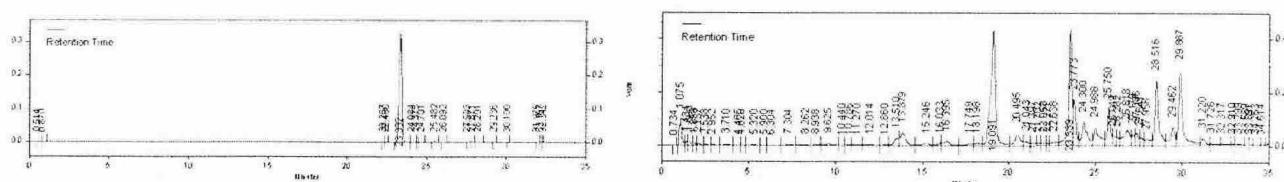


Figure 1. A) resveratrols standard 0.1mg/ml, B) content of resveratrols in the calli by 10 μM BA

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