ABSTRACT

Lippia Sp. is believed to contain high level of flavonoid and it is addressed that flavonoid has something about antioxidant activity. In the study, plant tissue culture from Lippia Citriodora as shoot cultures in MS medium supplemented with 1.0 mgL-1 BA and 0.2 mgL-1 NAA. For regeneration of shoot, stems in seedling culture were cultured in the medium. Those could promote growth and multiply which reached high biomass of plant culture and callus.

The aim of this study was to compare DPPH radical scavenging properties of extracts from commercial sample, plant culture and callus, and to evaluate quantity of rosmarinic acid (RA), caffeic acid (CA) and ferulic acid (FA). Radical scavenging activity of commercial sample was 96.5% while that of plant culture and callus was significantly increased (P<0.05) by 129.5% and 121.4%, respectively. Content of RA, CA and FA was analyzed by HPLC with RP C-18 column and UV detector (wavelength 320 nm). The mobile phase was methanol containing 0.1% phosphorous acid (solution A) and water containing 0.1% phosphorous acid (solution B) by gradient elution. The retention time of RA, CA and FA was 32 min, 13 min and 20 min, respectively. Analysis of RA, CA and FA in those samples, there was a peak at 21 min of retention time. This showed that content of FA in commercial sample, plant tissue and callus was 159.4, 65.7 and 94.3 mg/g DW, respectively. Nevertheless, RA and CA could not be detected in the samples.

Keywords : Lippia Citriodora、Tissue culture、DPPH radical scavenging、Rosmarinic acid、Caffeic acid、Ferulic acid
一、阿魏酸之功用

第六節 抗氧化成分

一、類黃酮
二、酚酸類
三、花青素

第三章 材料與方法

第一節 材料
一、檸檬馬鞭草
二、化學試藥
三、儀器

第二節 方法
一、基本培養基配置
二、生長素母液之配製
三、細胞分裂素母液之配製
四、組織培養方法之建立
五、癒合組織之誘導
六、癒合組織誘導之最佳條件試驗

第七章 結果與討論

第一節 檸檬馬鞭草再生系統之建立
一、不同的植物部位對芽體繁殖之影響
二、不同生長調節劑對芽體繁殖之影響

第二節 迷迭香酸、咖啡酸及阿魏酸含量分析
一、迷迭香酸含量分析
二、咖啡酸含量分析
三、阿魏酸含量分析

第五章 結論

參考文獻

圖一：檸檬馬鞭草
圖二：不同的植物部位對芽體繁殖之影響
圖三：不同濃度的生長調節劑對植株生長之影響
圖四：不同濃度的生長調節劑對芽體生長之影響
圖五：迷迭香酸、咖啡酸及阿魏酸標準品的層析圖
圖六：市售樣品阿魏酸的層析圖
圖七：植物體阿魏酸的層析圖
圖八：癒合組織阿魏酸的層析圖
圖九：樣品中迷迭香酸、咖啡酸及阿魏酸的含量

表一：不同濃度的生長調節劑對植物生長之影響
表二：不同濃度的生長調節劑對芽體萌芽率之影響
表三：檸檬馬鞭草萃取液pH值
表四：自由基清除率

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