

Conference abstract PO-12

Determination of Resveratrol by Using Carbon Paste Electrodes

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Resveratrol (3,3,4'-*trans*-trihydroxystilbene) is a polyphenolic phytoalexin that is produced by several plants as response to stress attack like UV exposure or fungus and bacteria infections [1]. It shows a variety of biological activities such as protection against atherosclerosis and against cardiovascular diseases and anticarcinogenic properties [2]. In recent years resveratrol has enjoyed an upswing in its popularity stimulated through investigations concerning the so called "French paradox" [3].

For the analysis of resveratrol in grapes and wine high performance liquid chromatography, gas chromatography-mass spectrometry and capillary electrophoresis are suggested [4–6]. In addition electrochemical methods especially differential pulse voltammetry and square wave voltammetry can be used for its analysis in pharmaceutical dosage form and urine [5, 6].

The purpose of the present study was to develop a differential pulse voltammetric method for the determination of resveratrol in grape, which ought to be simple, rapid and therefore suitable in routine work. Under optimized conditions by using carbon paste electrode as working electrode, the DP voltammograms exhibited a reproducible peak at +0.48 V vs Ag/AgCl in 0.1 M Britton-Robinson buffer pH 6.0. Linearity between peak height and concentration of resveratrol was found in a range of 5.26×10^{-7} – 2.63×10^{-5} mol/L ($R = 0.9988$). LOD was calculated to be 2.4 ng/mL. The results of the electrochemical investigation are presented in this poster.

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