

Soleas GJ, Goldberg DM, *Diamandis EP*, Karumanchiri A, Ng E, Yan J. A gas chromatographic -mass spectrometric method for the analysis of resveratrol in juice and wine samples. **Am J Enol Vitic** 1993;44;344.

Soleas, G. J.\*, D. M. Goldberg, E. P. Diamandis, A. Karumanchiri, E. Ng, and J. Yan (\*Andres Wines Ltd., P.O.Box 10550, Winona, Ont. L8E 5S4, Canada). **A gas chromatographic-mass spectrometric method for the analysis of resveratrol in juice and wine samples.**

Resveratrol (*trans*-3,5,4'-trihydroxystilbene), is a phytoalexin found in numerous plants as well as in grape skins. It is a naturally occurring fungicide, and in vines, its synthesis is related to the gray mold resistance. Evidence from recent epidemiological surveys in wine-drinking countries suggests that *trans*-Resveratrol may be responsible for the protective effects of wine, specifically red wine, against coronary heart disease. Samples of juice were extracted twice with ethyl acetate using a salting-out technique and filtered through Whatman 1PS filter paper containing anhydrous sodium sulphate. Wine samples were passed through a pre-conditioned C-18 solid phase extraction cartridge and resveratrol was eluted with ethyl acetate. Extracts were evaporated to dryness and allowed to react with *bis*-[trimethylsilyl]-trifluoroacetamide (BSTFA) at 60°C for 30 minutes, forming trimethylsilyl-derivatives of resveratrol. A GC/MS method was developed using an HP 5890 gas chromatograph interfaced to an HP 5970B mass selective detector, coupled through an SPB-5 capillary column, 30 m long, 0.25 mm i.d., and 0.25 µm film thickness. The initial and final GC oven temperatures were at 110°C and 300°C, respectively, at a ramp of 5°C/min., total of 18 minutes per injection. Quantitations were performed on ion  $m = 444$  amu with qualifier ions at  $m = 443, 445, 446$  amu. Method limit of detection and quantitation was at 4 ng/mL and at 10 ng/mL, respectively; the recovery on juice and wine was at ca. 88% and ca. 91%, respectively; CV within-batch 6.9%-10.7%.