



May 15, 2005

Analytical Report

My laboratory analyzed a commercial sample of Flavin7™ for total phenolics and for antioxidant activity.

Total Phenolic Content

The total phenolic content was analyzed by the rapid method developed in my laboratory, as reported by Xu and Diosady (Rapid method for total phenolic acid determination in rapeseed/canola meal. Food Research International (1997) 30:571). This technique is sensitive for most polyphenols and phenolic compounds, with the exception of tannins.

1700mg/100mL total phenolics was obtained by the method.

This result is consistent with the label claim of 2200 mg/100mL total phenolics.

Antioxidant Activity

The free radical quenching ability of the Flavin7™ was measured using the DPPH Radical Scavenging Test. For determination of the antioxidant activity of samples, reaction with the stable 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical was used. The method developed by Hatano et al. (1988) was employed with some modifications (Matthaus, 2002).

The colour of the sample changed from purple to yellow as the DPPH radical was scavenged by an antioxidant through donation of hydrogen to form a stable DPPH-H molecule. The decrease in absorbance was plotted against a calibration curve and the EC₅₀ value was calculated. The EC₅₀ value represents the concentration of antioxidant required to quench 50% of the initial DPPH radicals under the given experimental conditions. The EC₅₀ value decreases as the antioxidant activity increases.

The activity of Flavin7™ was compared with the antioxidant activity of standard sinapic acid, which is known to have be a potent antioxidant.

Sample	EC ₅₀
Sinapic acid	0.11
Flavin 7	0.04

The results presented above indicated high antioxidant activity by, more than double that of sinapic acid – a typical plant phenolic compound with known antioxidant activity.

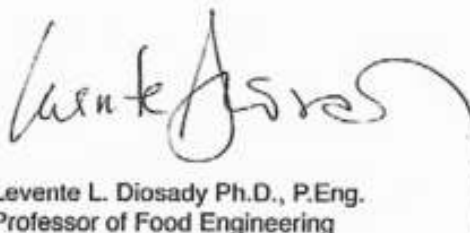
Reference:

Hatano, T., Kagawa, H., Yasuhara, T., and Okuda, T. 1988. Two new flavanoids and other constituents in licorice root: their relative astringent and radical scavenging effects. Chem. Pharm. Bull. 36: 1090.

Matthaus, B. 2002. Antioxidant activity of extracts obtained from residue of different oilseeds. J. Agric. Food Chem. 50:3444.

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Best regards



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