

Letter to the Editor

A Note on the Relevance of Chrysophanol to Food and Anticancer Research

I read with interest the article entitled “Chrysophanol induces necrosis through the production of ROS and alteration of ATP levels in J5 human liver cancer cells” Mol. Nutr. Food Res. 2010, 54, 967–976, by Lu et al [1]. This article is quite interesting and the authors should be complimented for the great amount of work they have done. The purpose of this letter is to call attention to the need for some clarification on the toxicity of chrysophanol. Lu et al. state “In summary, chrysophanol is shown to be a new molecular inducer of necrotic cell death which may have an application as a new drug candidate” [1]. I have reviewed the pharmacotoxicological properties of Asian medicinal plants over the past 15 years [2–6] and chrysophanol and other anthraquinones are indeed found in several members of the family Polygonaceae Juss. such as *Rheum palmatum* L. and *Rumex japonicus* Houtt. which are laxative [4]. However one ought to know that chrysophanol is metabolized in the liver by cytochrome P450 enzymes into aloe-emodin which inhibits the enzymatic activity of topoisomerase II, fragments DNA and induces potent genotoxicity and carcinogenicity [7–10]. In fact Van Gorkom et al. [11] reported that anthraquinones intake is associated with colorectal carcinoma. Therefore the statement of Lu et al. implying that chrysophanol “may have an application as a new drug candidate” [1] is quite not appropriate. Actually, this article does not provide any beneficial evi-

dence on the relevance of chrysophanol to food and anticancer research.

References

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