

Modulation of liver proteins in male C57BL/6 mice by black tea
(*Camellia sinensis*).

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Consumption of tea as a pleasing, stimulating and health-promoting beverage began in China 2737 BC by the emperor Sheng-Nung. Today tea is one of the most popular beverages consumed worldwide. The significance of daily tea consumption and its cancer chemoprevention in humans is an important issue. It has been demonstrated that the oral intake of tea can inhibit the development of chemically induced cancer in many animal models. The chemopreventive effects of tea against tumour growth have been attributed to the unique antioxidant activities of the tea polyphenol, (-)-epi-gallocatechin 3 gallate (EGCg). However, the exact mechanism of action still eludes scientist today.

The aim of this study was to find proteins that are modulated in mice drinking tea in contrast to control animals receiving only water (vehicle). It was found that after six weeks of treatment the liver of the low dose (0.5% w/v) tea group showed a significant increase in liver weight. One and two dimensional gel electrophoresis were performed on the liver samples. Analysis of the gel images with Quantity One and PDQuest Software from BioRad revealed statistically significant differences in several protein bands or spots between the various experimental groups.

Ultimately it is hoped that identification of these modulated proteins will explain the chemopreventative effect of tea and lead to new targets for cancer therapy.