

Chapter 21 – Bambang (mangifera pajang) seed kernel: antioxidant properties and anti-cancer effects

Abstract

Mangifera pajang or bambangan is a fruit endemic to Borneo Island (Malaysia, Indonesia, and Brunei). This fruit is used locally as food, the kernel sometimes being used to make pickle. To our knowledge, although this fruit is abundant in this area, the scientific data pertaining to this fruit are lacking. Thus, since 2006 we have conducted intensive investigations to study the potential health benefits of bambangan and its by-products (i.e., peel, kernel). These studies have demonstrated that the kernel of bambangan displayed high antioxidant activity, as compared to other parts of the fruit. HPLC study of the kernel revealed the occurrence of at least 10 polyphenol phytochemicals that might be responsible for this antioxidant effect. The kernel extract has also been shown to display cytotoxic effects towards cancer cell lines derived from liver, breast, ovary, and colon. In addition, cytoprotective activity of the kernel extract against an oxidative stress toxicant has been investigated. The benefits (chemopreventive and chemotherapeutic) of *M. pajang* kernel extract are suggested, with further study needed to determine the efficacy of this extract in the treatment of various diseases.