

Screening for the *in vitro* anti-tumor-promoting activities of edible plants from Malaysia

ABSTRACT

A total of 114 methanol extracts from 42 plant families of edible Malaysian plants were screened for their inhibitory activities toward tumor promoter 12-O-hexadecanoylphorbol-13-acetate (HPA)-induced Epstein-Barr virus (EBV) activation in Raji cells. By testing at a concentration of 200 g/ml, 74% of the 114 extracts inhibited EBV activation by 30% or more. This rate is comparable to those observed in the previous tests on edible Thai (60%) and Indonesian (71%) plants, and, importantly, much higher than that (26%) observed for Japanese edible plants. Approximately half of the Malaysian plants did not taxonomically overlap those from the other three countries, suggesting that Malaysian plants, as well as Thai and Indonesian plants, are an exclusive source of effective chemopreventive agents. Further dilution experiments indicated an extract from the leaves of Piper betle L. (Piperaceae) to be one of the most promising species. The high potential of edible Southeast Asian plants for cancer chemoprevention is collectively discussed.

Keyword: Anti-tumor promotion; Epstein-Barr virus; Southeast Asia; Piper betle L.; Malaysia