

Cancer chemopreventive activity of phenylpropanoids and phytoquinoids from *Illicium* plants.

Cancer Lett. 2004 Oct 28;214(2):165-9.

Itoigawa M, Ito C, Tokuda H, Enjo F, Nishino H, Furukawa H.

Faculty of Pharmacy, Meijo University, Tempaku-ku, Nagoya 468-8503, Japan.

itoigawa@tokaigakuen-c.ac.jp

In our joint project involving search of anti-tumor promoters from natural plant sources, six phenylpropanoids and seven phytoquinoids isolated from three *Illicium* plants (Illiciaceae) were tested for their inhibitory activities against Epstein-Barr virus early antigen (EBV-EA) activation induced by 12-O-tetradecanoylphorbol-13-acetate in Raji cells. All tested compounds showed inhibitory activity against the EBV-EA activation even at 1 x 10⁻⁶ mol ratio, and the inhibitory activity of their compounds was found to be more than that of beta-carotene. Two phenylpropanoids having prenyl group, 4-allyl-2-methoxy-6-(3-methyl-2-butenyl)phenol (3) and 4-allyl-2,6-dimethoxy-3-(3-methyl-2-butenyl)phenol (4), showed more potent activities as anti-tumor promoters (IC₅₀ 224 and 217 mol ratio/TPA, respectively). The presence of a prenyl moiety in the phenylpropanoids plays an important role in anti-tumor promoting activity as xanthone, coumarin and flavonoid previously reported. This investigation indicated that prenylated phenylpropanoids might be valuable as potential cancer chemopreventive agents.