A Novel Resveratrol Tetramer Vaticanol C from Stem Bark Acts as an Anti-metastatic Action in a Mouse Mammary Cancer Model

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Editorial

Plants and plant extracts have been traditionally used in Ayurvedic and Chinese medicine for many centuries. A large number of natural products appear to have strong therapeutic effects and the discovery of new plants with potential biological activities is a passionate endeavor for many concerned with natural medicinal. Among those already investigated, great attention has been paid to polyphenols because of their antioxidant and possible anti-tumor properties [1], including α- and γ-mangostin from the mangosteen pericarp [2-4] and resveratrol. Resveratrol, a chemo preventive and therapeutic polyphenol found in products appear to have strong therapeutic effects and the discovery of new plants with potential biological activities is a passionate endeavor for many concerned with natural medicinal. Among those already investigated, great attention has been paid to polyphenols because of their antioxidant and possible anti-tumor properties [1], including α- and γ-mangostin from the mangosteen pericarp [2-4] and resveratrol. Resveratrol, a chemo preventive and therapeutic polyphenol found in

Angiogenesis in mammary tumors tended to be lower in vaticanol C-treated groups. Furthermore, the numbers of dilated lymphatic vessels having intraluminal cancer cells (an indication of lymphatic invasion) in mammary tumors were significantly decreased with administration of vaticanol C, indicating a reduction in tumor cell migration – at least, by the lymphatic route. The most common pathway of initial dissemination of many solid malignancies is via the lymphatics, with varying metastasis was found in human cancer [11].

Vaticanol C has been shown to induce apoptosis via p53-dependent pathways in a variety of cancer cells [8]. In the colon cancer cell line SW480, which carries a p53 mutation, vaticanol C induces apoptosis but reduces the transcriptional levels of mutant p53, suggesting transcriptional modulation. In the case of non-functional mutant p53, the p73 homolog may act as an apoptotic inducer. Since half of human cancers are reported to have p53 mutations [12], the fact that vaticanol C induces an apoptotic response in the presence of mutant p53 may be highly relevant to inhibiting many human cancers.

References


