Anticancer activity of flavonoids from *Calamus vattayila*

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Flavonoids are a large group of essential molecules present in plants. They constitute major phenolic substances in plants. Fruits, vegetables, tea and wine are the main dietary sources of flavonoids for humans. There has been increasing interest in the research on flavonoids because of their versatile health benefits reported in various epidemiological studies. Recent researches have revealed that these molecules possess antioxidant activities which prevent free-radical damage to biological molecules such as lipids, proteins and DNA, which can cause many cardiovascular, and neurodegenerative diseases as well as cancer and diabetes. The previous studies showed that the ingestion of flavonoids reduces the risk of cardiovascular diseases, metabolic disorders, and certain types of cancer. These effects are due to the physiological activity of flavonoids in the reduction of oxidative stress, inhibiting low-density lipoproteins oxidation etc. Flavonoids are now considered as an indispensable component in a variety of nutraceuticals, pharmaceutical, medicinal and cosmetic applications. In the present study, flavonoids have been isolated from the ethanolic extract of Calamus vattayila Renuka. The *in-vitro* anticancer properties have been investigated using isolated flavonoids. The results of this study revealed that the fruits of Calamus vattayila could be serving as a new source for the development of anticancer drug and as nutraceuticals with potential applications to reduce the level of oxidative stress and related health benefits. Further investigations will be very useful in the food and pharmaceutical industry for the commercialization of the product.

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