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## **Functional variation of soluble polyphenols tannins in apple oak and pomegranate peels as anticancer therapeutic drug**

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The possibility of anticancer drug has generated interest in natural products compounds. There is no much evidence to support the hypothesis that polyphenolics tannins compounds have anti-proliferation and apoptosis activities. Observation by (Navindra P. Seeram, et al 2004) and (HaythamDahlawi, et al 2012) concluded that Pomegranate juice and extracts have been shown to have potent anticancer properties in vitro for different cancer types included Leukaemia. Although few studies described the bioactivities of hydrolysable tannins extracted from Pomegranate juices but limited attention has been paid to other tannins extraction from other parts of plant. In this review we provided a novel approach variation of hydrolysable tannins structure and their inhibition activity on leukaemia K562 cells. This approach challenged by data showing anti- proliferation activity for hydrolysable tannins extracted from Pomegranate peels with the hydrolysable tannins extracted from Apple Oak which is induced differentiation process.

The properties or natural modification of polyphenolics included hydrolysable tannins are still inconclusive as consequence of their environmentally and extractions methods sensitivities. However, it is not clear whether the structure of hydrolysable tannins from two different parts of plant is similar or could be modified. To gain efficient understanding of these polyphenolic compounds, additional studies of tannins structure function relationship are needed.

Research results are not only indicated significant inhibition of leukaemia cell growth when treated with Pomegranate peels tannins but also unclear activity reported from tannins extracted from Apple oak towards leukaemia cells proliferation. Consequently, this difference in mechanism of activities is needed to be analysed and worth investigating since it is create a crucial part of energetic and dynamic research area.

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