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Antioxidant and cytotoxicity activity of *Areca* nut (*Areca catechu* linn.) extract as natural anticancer agent for oral squamous cell carcinoma

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Many herbs have been discovered to be potential sources of anticancer drugs. Biji Pinang or *Areca* nut has a high content of phenolics and flavonoids, which is related to antioxidant activity. However, data on its effects on oral squamous cell carcinoma, human keratinocyte cells and the safety of its use is not available. The objective of this study is to identify the phytochemical composition of *Areca* nut, antioxidant activity, and cytotoxicity activity in HSC-2, HSC-3, and HaCat. The *Areca* nut was extracted by ethanol 96%, phytochemical screening, LC-MS, DPPH assay, and MTS assay. The presence of alkaloid, tannin, flavonoid, catechin, and quercetin compounds in *Areca* nut extract. Total phenolic content was 80.3 mgTAE/g and total flavonoid content was 238.5 mgCE/g. The EC₅₀ was 15.95±0.84 µg/ml. The extract of *Areca* nut showed higher toxicity on HSC-3 cell compared to HSC-2 IC₅₀ was 164.06 µg/ml vs. 629.50 µg/ml in HSC-2. The proliferation effect was found in HaCat cells. The antioxidant activity of the extract of *Areca* nut might be associated with the presence of catechin, selective cytotoxicity on HSC-2 and HSC-3, and HaCat cells.

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