

Abstract

Biologically Transformed Propolis Exhibits Cytotoxic Effect on A375 Malignant Melanoma Cells In Vitro [†]

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Abstract: Propolis has been used for its health benefits, due to high phenolic content. Recently it has been shown that the extraction methods which yielded phenolic molecules, affected the anti-oxidant and anticancer effect of propolis. In our previous study we showed that biotransformation of propolis via *Lactobacillus plantarum* might increase antioxidative effect. In this study, we investigated the cytotoxic effect of this propolis sample on A375 melanoma cells. The propolis samples were extracted in water. The phenolic molecules were determined with LC MS/MS. Cytotoxicity was evaluated by means of the WST. Water-extracted propolis samples were incubated with *L. plantarum* (1.5%) in 37 °C for 24 h. A375 cells were treated by propolis with doses of from 25 to 1000 µg/mL, for periods of 24 h, 48 h and 72 h. Cytotoxicity MTT tests were performed. The significantly high phenolic compounds mainly; Quercetine (514 ng/mL), rutin (623 ng/mL), ellagic acid (331 ng/mL), epicatechin (125 ng/mL) were found in propolis samples IC₅₀ values were 412.5 µg/mL (24 h) and 314 µg/mL (48 h) and 353 µg/mL (72 h). In conclusion, our data showed that the cytotoxic effect of biologically transformed propolis which have high content of rutin, quercetin, ellagic acid, epicatechin. Biotransformation might be a useful strategy to increase bioavailability of phenolic molecules in propolis.

Keywords: Propolis; Phenolic content; Cytotoxicity



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