Green synthesis of gold nanoparticles using Cryptolepis buchanani latex

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Abstract: Cryptolepis buchanani is a folk medicinal plant. Its stem is widely used to treat inflammatory. Moreover, its latex was reported to consist of novel glycolysated serine protease which is commonly used in haemostasis and wound healing. In this work, the possibility of gold nanoparticles (AuNPs) synthesis using C. buchanani latex as reducing agent and stabilizer was investigated. In order to increase anti-cancer activity, stabilizing and delivering glycolysated serine protease into the cells. The AuNPs was successfully synthesized. The characteristic peak of AuNPs is shown at 521 nm in the UV-Vis spectrum result. TEM image of AuNPs revealed a spherical shape, with an average size of 5 nm. Furthermore, we initially treated the synthesized AuNPs with cancer cells which it was the one kind of inflammatory cells. The result shows AuNPs has more specific toward cancer cell than latex.

Keywords: Cryptolepis buchanani; Latex; Gold nanoparticles; Green synthesis; Anti-cancer