

28G-pm07

ミャンマー産プロポリスの化学成分とそれらの PANC-1 細胞に対する選択的細胞毒性活性

○李 峰¹, Suresh AWALE¹, 江角 浩安², 手塚 康弘¹, 門田 重利¹(¹富山大和漢研, ²国立がんセンター東病院)

[Purpose] Propolis is a resinous hive product collected by honeybees from various plant sources. It has a long history of being used in folk medicine and also has been reported to possess valuable biological activities such as antioxidant, antibacterial, antiviral, antifungal, anti-inflammatory and anticancer activities. In our continued work on the propolis from different origins, recently we observed that the methanol extract of propolis, collected from Shan state of Myanmar, displayed the 100% preferential cytotoxicity against human pancreatic PANC-1 cells in nutrient-deprived medium (NDM) at the concentration of 12.5 $\mu\text{g}/\text{mL}$. Human pancreatic cancer PANC-1 cells are well known to exhibit marked tolerance to nutrition starvation that enables them to survive for prolonged period of time even under extremely nutrient-deprived conditions. Thus, the agent that kills the cancer cells preferentially under nutrition starvation is regarded as a novel target in anticancer drug development.¹ In order to identify the active constituent responsible for the observed preferential cytotoxic activity in Myanmar propolis, we carried out a detailed chemical investigation of its methanol extract.

[Results and Discussion] Myanmar propolis (153 g) was extracted with MeOH to give a MeOH extract (20.0 g). The MeOH extract was then chromatographed on silica gel with a hexane, CHCl_3 -MeOH solvent system to give five fractions. Fractions 2-4 were further purified using series of chromatographic separations to result in the isolation of 17 compounds including two novel cycloartane triterpenoids. The structures of new compounds were elucidated by analysis of their spectroscopic data. In this presentation, we report the structures of these new compounds together with the preferential cytotoxicity of all the isolates.