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Pheophytin content and Cytotoxicity of silkworm feces against Jukart cells according to dry method and storage period.

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In order to find potential anticancer agents, we extracted pheophytin from the silkworm feces, which were kept in storage for 1~ 3 years by several drying and storage methods such as sun dry, shade dry, fresh freezing dry and freezing dry. The pheophytin extracts (mainly 10-hydroxypheophytin a and little b) prepared from several kept silkworm feces were analyzed by HPLC with photodiode array and fluorescence detection. The contents of those pheophytins were relatively higher in the samples prepared from three-year-old silkworm feces, which were kept and prepared by freezing storage and freezing dried in use, or freezing dried and cold storage than others. The cytotoxicity of the pheophytin extracts and ethanol extracts of various storage silkworm feces were measured using Jukart cells originated from human leukemia, with the dye uptake assay (MTT) in order to find effective photodynamic therapeutic agents. The anticancer activity of those pheophytin extracts prepared by various storage methods resulted in a little difference among them. However, the ethanol extracts of fresh freezing dried silkworm in this year was good cytotoxic activity of those of any other silkworm feces. With regards to these results, fresh ethanol extracts of silkworm feces were better than old ones. On the other hands, the pheophytin extracts of old silkworm feces contained the highest percentage of pheophytin yield and good cytotoxicity against cancer cells.