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## Cytotoxicity of Saponin-rich Extracts from *Phytolacca americana* L. (Phytolaccaceae) (Abstract)

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## Cytotoxicity of Saponin-rich Extracts from *Phytolacca americana* L. (Phytolaccaceae)

### Abstract

*Phytolacca americana* L. (American pokeweed) is a common perennial species in the United States and often considered as a major pest by farmers. The young shoots and leaves may be eaten as a cooked vegetable [1] while the berries are often cooked into a jelly or pie; although the seeds are highly toxic to livestock and humans. The roots of pokeweed have been used in folk medicine for the treatment of cancer and other diseases [2]. Several Chinese herbal books emphasized that only the roots of white-color plant (with white flowers and green stems) can be used medicinally and the red-color plants are very toxic and can be only used externally [3]. To date, botanical products of pokeweed are not generally standardized [2]. In this study, extracts from the roots, berries, leaves and stems of both white- and red-color plants were investigated for their chemical contents and potential inhibition *in vitro* against non-small cell lung cancer cells (A549), prostate cancer cells (PC-3), pancreatic cancer cells (Panc-1) and normal cells using CCK-8 assays. All saponin-rich extracts (SREs) inhibited the at least 50% growth of PC-3 cell after 48h of exposure to 50 $\mu$ g/mL, with SRE from leaves being the most potent inhibitor. There is no significant difference in either total saponins or cytotoxicity of SREs between white- and red-color plants. *Acknowledgements:* This research project was sponsored by U.S. Department of Agriculture (#2008–03460). *References:* [1] Kang SS, Woo SW (1980) *J Nat Prod* 43: 510–513. [2] Wang LY, et al. (2008) *J Nat Prod* 71: 35–40. [3] Chinese Materia Medica Editorial Board (1999) *Chinese Materia Medica*. Shanghai Scientific and Technical Publishers. Shanghai.