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33,600 bps Modem hours minutes seconds **Sanguinarine: A Novel Agent Against Prostate Cancer. - Annual rept. 16 Jan 2004-15 Jan 2005.***Wisconsin Univ. -Madison.***Product Type:** Technical report**NTIS Order Number:** ADA446884\$14.00-Microfiche **Page Count:** 37 pages**Date:** Feb 2005**Author:** N. Ahmad

In American men, Cancer of the Prostate (CaP), continues to be one of the most frequently occurring malignancies, representing 29% of all new cancer cases. The traditional surgery and therapy has not been successful in the management of CaP. Therefore, the search for novel agents and approaches for the treatment of CaP continues. Natural plant-based products have shown promise as anticancer agents. Sanguinarine (13-methyl 1,3)(benzodioxolo 5,6-c)-(1,3-dioxolo 4,5-i)(phenanthridinium), derived from the root of Sanguinaria Canadensis and other poppy-fumaria species, is a benzophenanthridine alkaloid and a structural homologue of chelerythrine and has been shown to possess anti- microbial, antioxidant and anti-inflammatory properties. Our earlier published and preliminary studies suggested that sanguinarine may be developed as an agent for the management of prostate cancer. Based on this rationale, funded by the Department of Defense (DOD; Idea Development Award -W81XWH-04-1-0220), we initiated a study to investigate the cancer chemopreventive and cancer therapeutic effects of sanguinarine against CaP. We are happy to report that we have made significant progress during the last 12 months of funding period, in this ongoing grant. In the last 12 months of the reporting period, the key research accomplishments are as follows. We have shown that sanguinarine causes cell cycle blockade and apoptosis of human prostate carcinoma cells via modulation of cyclin kinase inhibitor-cyclin-cyclin-dependent kinase machinery. These results suggest that sanguinarine may be developed as an agent for the management of prostate cancer. In addition, our recent in vivo study in athymic nude mice implanted with prostate tumors, for the first time, demonstrated the chemopreventive and therapeutic effects of sanguinarine against PCa development under in vivo situations. Based on our data, we suggested that sanguinarine is a promising candidate for chemoprevention and/or intervention.

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