Compositions derived from sweet potato greens and methods of preparation and use

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Introduction: Health benefits of phytochemicals have long been emphasized by nutrition research. Sweet potato greens (SPG) from Ipomoea batatas are widely demonstrated for their numerous health benefits such as antibacterial, antimutagenic and anticancer properties. SPG contains significant amounts of synergistic polyphenols which depict various chemopreventive properties such as apoptosis induction and inhibition of cell growth. Therefore, compositions derived from sweet potato greens intended for oral administration can be used as dietary supplement or therapeutic use.

Technology: Aneja lab at GSU have fractionated the sweet potato green extracts (SPGE) via sequential chromatographic separation to obtain a fraction having strong anti-prostate cancer properties in vitro and in vivo. This bioactivity guided fractionation led to identification of remarkably active, polyphenol enriched, 100-fold more potent (IC\textsubscript{50} = 1 µg/ml) fraction than the parent extract. The extract is enriched in major phenolics such as Quinic acid, Chlorogenic acid and Caffeic acid. Oral feeding of SPG fraction in mice has demonstrated significant inhibition of prostate cancer. Extensively done histopathological analysis of various organs has revealed no toxicity so far. The fractionated SPGE has great potential for use as an effective nutraceutical.

Applications:
- Promote wellness in healthy individuals by reducing the risk of cancer
- Inhibit tumor growth and metastasis in patients suffering from prostate cancer
- Treatment, prevention and management of various health conditions
- Antidiabetic, antimutagenic, antibacterial, antiinflammatory, antioxidant properties
- Useful in hypertension and skin wound healing

Advantages:
- Novel prophylactic and therapeutic nutraceutical
- Natural plant extract with no observed toxicity

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