

## In vivo anti-carcinogenic property of a formulated citrus peel extract

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### **ABSTRACT**

**Background:** Cancer is one of the two leading fatal diseases humans face. Synthesized drugs available for cancer intervention have many limitations in applications and effectiveness and are often associated with serious side effects, which can further damage the patients' quality of life. Recently, the development of natural-product-based and therapeutically sound anti-cancer agents have gained popularity in the fields of functional and medical foods, which may exhibit advantages of minimal toxicity and multiple active molecular components. Citrus peel or its extract has been reported to have potent pharmacological activities and health benefits because of abundant flavonoids present in citrus fruits, particularly in the peels.

**Results:** The results of these studies demonstrated the efficacy of Gold Lotion (GL), an extract of multiple varieties of citrus peels that contains abundant flavonoids, including a high percentage of polymethoxyflavones (PMFs), which can protect against skin cancer, colon cancer, and prostate cancer in mice. These results are clearly promising and warrant a human trial with GL in future studies.

**Summary:** Briefly, these data have demonstrated that GL is efficacious in preventing and treating cancer in several model systems. This review summarizes the results of currently available data regarding the *in vivo* anti-cancer activity of GL, and identifies opportunities for subsequent human clinical trials to assess preventive and therapeutic effects in the near future.

**Keywords:** gold lotion, citrus peel extracts, skin cancer, colon cancer, prostate cancer