

Extrato de Rauwolfia vomitoria potencía os efeitos da Gemcitabina contra o câncer pancreático

## Antitumor Activities of Rauwolfia vomitoria Extract and Potentiation of Gemcitabine Effects Against Pancreatic Cancer.

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### Abstract

Pancreatic cancer is one of the most lethal malignancies with very limited treatment option. In the effort of enhancing the effect of the conventional chemotherapeutic drug gemcitabine against pancreatic cancer, we investigated *in vitro* and *in vivo* the anticancer effect of a  $\beta$ -carboline-enriched extract from the plant *Rauwolfia vomitoria* (Rau), either alone or in combination with gemcitabine, in preclinical pancreatic cancer models. Rau induced apoptosis in pancreatic cancer cells in a concentration-dependent manner, and completely inhibited colony formation of PANC-1 cells in soft agar. The combination of Rau and gemcitabine had synergistic effect in inhibiting cell growth with dose reduction effect for gemcitabine. In an orthotopic pancreatic cancer mouse model, PANC-1 tumor growth was significantly suppressed by Rau treatment. Metastasis was inhibited by Rau. Adding Rau to gemcitabine treatment reduced tumor burden and metastatic potential in the gemcitabine non-responsive tumor. These data suggest that Rau possesses anti-pancreatic cancer activity and could improve effect of gemcitabine.

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### KEYWORDS:

*Rauwolfia vomitoria*; combination therapy; gemcitabine; pancreatic cancer; plant extract; synergy

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