Doroty Mesquita Dourado et al., Madridge J Cancer Stud Res. 2018
http://dx.doi.org/10.18689/2640-5180.a3.006

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International Conference on
Stem Cells and Cell Biology
December 6-7, 2018 Valencia, Spain

Effect of Smilax Fluminensis Extract on B16F10 Murine Melanoma Cells: *In Vitro* and *In Vivo* Study

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Melanoma is considered one of the main current challenges of medicine. Herbal remedies used in traditional folk medicine provide a largely unexplored source of potential novel drugs. The aim of the study was investigated the *in vitro* and *in vivo* anticancer activity of leaves extract from S. Fluminensis on melanoma. Dried leaf samples were smashed and extracted with ethylic alcohol. Cytotoxicity tests were performed in NIH/3T3 (murine fibroblast) to determine Selectivity Index (IS) and on B16F10 (murine melanoma cells) where antitumor activity was expressed in GI_{50}. In addition, BALB/c mice models were used to evaluate the *in vivo* anticancer activity. Mice were intraperitoneally injected with S. Fluminensis extract at doses of 100 and 200mg/kg on the 14th experimental day. The tumor inhibition ratio was determined after 24 days of treatment and the histopathological analyses of the tumor tissue and liver were compared. Analyzing the results, S. Fluminensis extract was active in B16F10 line (GI_{50}: 4,37 µg/mL), which means that this value inhibited 50% of cell growth, been the extract considered a highly antineoplastic agent. The IS was 54, that is, the compound is 54-fold more active in B16F10 cells than in 3T3 cells. In the experimental model, the inhibition percentage of tumoral growth was 89,21% in the treated group with S. Fluminensis 200mg/kg and 33,97% in the 100mg/kg. Histopathology analysis of S. Fluminensis treated tumor tissue showed necrotic cells reduction, adipocytes presence, melanin deposition, vascularization and inflammatory process in a concentration dependent manner. On the liver, the animals treated with the extract on both concentrations showed normal hepatic organization, normal hepatocytes and absence of inflammatory focus. The results indicate that S. Fluminensis extract demonstrated both *in vitro* and *in vivo* anticancer activity, reducing the tumoral growth in B16F10 and could therefore be a highly antineoplastic agent.

Biography:

Doroty Mesquita Dourado, PhD and postdoctoral studies from UNICAMP/SP. She works as a professor and researcher at University Anhanguera Uniderp in Campo Grande, MS. Has published more than 20 papers in reputed journals and has been serving as an editorial board member of repute. Their researches are carried out with medicinal plants of the Pantanal and Cerrado in the Laboratory of Toxinology and Medicinal Plants of the University Anhanguera Uniderp in Campo Grande, MS.