Orlistate pode ser benéfico no câncer de ovário

Orlistat, a novel potent antitumor agent for ovarian cancer: proteomic analysis of ovarian cancer cells treated with Orlistat.


Source

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Abstract

Orlistat is an orally administered anti-obesity drug that has shown significant antitumor activity in a variety of tumor cells. To identify the proteins involved in its antitumor activity, we employed a proteomic approach to reveal protein expression changes in the human ovarian cancer cell line SKOV3, following Orlistat treatment. Protein expression profiles were analyzed by 2-dimensional polyacrylamide gel electrophoresis (2-DE) and protein identification was performed on a MALDI-Q-TOF MS/MS instrument. More than 110 differentially expressed proteins were visualized by 2-DE and Coomassie brilliant blue staining. Furthermore, 71 proteins differentially expressed proteins were positively identified via mass spectrometry (MS)/MS analysis. In particular, PKM1/2, a key enzyme involved in tumorigenesis, was found to be significantly downregulated in SKOV3 cells following treatment with Orlistat. Moreover, PKM1/2 was proved to be downregulated in SKOV3 cells by western blot analysis after treatment with Orlistat. Taken together, using proteomic tools, we identified several differentially expressed proteins that underwent Orlistat-induced apoptosis, particularly PKM2. These changes confirmed our hypothesis that Orlistat is a potential inhibitor of ovarian cancer and can be used as a novel adjuvant antitumor agent.

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