Silimarina inibe câncer cervical: ativa caspase 3, modula família Bcl-2, inibe fosforilação do AKT e ativa PTEN (gene supressor tumoral)

**Silymarin Inhibits Cervical Cancer Cell Through an Increase of Phosphatase and Tensin Homolog.**

Yu HC, Chen LJ, Cheng KC, Li YX, Yeh CH, Cheng JT.


Department of Obstetrics and Gynecology, Zhudong Veterans Hospital, Zhudong City, Taiwan, 31005.

**Abstract**

Silymarin is an active constituent contained in the seeds of the milk thistle plant and is widely used as a hepatic protection agent due to its antioxidant-like activity. In the present study we evaluated the potential action of silymarin against cervical cancer and investigated its mechanism of action. Treatment of cervical cancer cells (C-33A) with silymarin resulted in a significant decrease in cell viability. Silymarin induced apoptosis through the modulation of Bcl-2 family proteins and activation of caspase 3. Silymarin also inhibited the phosphorylation of Akt with an increase in expression of phosphatase and tensin homolog (PTEN). We also observed that silymarin suppressed C-33A cell invasion and wound-healing migration in a concentration-dependent manner. Western-blot analysis showed that silymarin significantly inhibited the expression of matrix metalloproteinase-9 (MMP-9) in C-33A cells. Furthermore, we applied siRNA to lower the PTEN gene, which diminished the anticancer actions of silymarin. Taken together, these results show that silymarin has the potential to suppress the survival, migration and invasion of C-33A cancer cells; thus, it could be developed as a promising agent for the treatment of cervical cancer in the future.

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