P187

Silymarin as Anti-Cancer Agent

Mitra Korani [1] * , Shahla Korani [2]

1- Nanotechnology Center, BuAli Research Institute, Mashhad University of Medical Sciences, 2- School of Advanced Technologies in Medicine, Department of Biotechnology and Molecular Medicine, Faculty of Medicine, Shahid Beheshti University of Medical Sciences
mkorani55@yahoo.com, sh_korani@yahoo.com

Silymarin is a unique flavonoid complex—containing silybin, silydianin, and silychrisin—that is derived from the milk thistle plant. These unique phytochemicals from the milk thistle have been the subject of decades of research into their beneficial properties. It is used for the protection against various cancer carcinoma. In this review, we summarize the recent investigations and mechanistic studies regarding possible molecular targets of silymarin for cancer prevention. Silymarin modulates imbalance between cell survival and apoptosis through interference with the expressions of cell cycle regulators and proteins involved in apoptosis. In addition, silymarin also showed anti-inflammatory as well as anti-metastatic activity. Further, the protective effects of silymarin and its major active constituent, silibinin, studied in various tissues, suggest a clinical application in cancer patients as an adjunct to estabilished therapies, to prevent or reduce chemotherapy as well as radiotherapy-induced toxicity. This review focuses on the chemistry and analogues of silymarin, multiple possible molecular mechanisms, in vitro as well as in vivo anticancer activities, and studies on human clinical trials.

Keywords: Silymarin, Carcinoma, Cancer Apoptosis