

Abstract

Determination of Silymarin Molecule Activity in Colon Cancer by AgNOR Technique [†]

Merve Alpay ^{1,*}, Recep Eröz ², Gorkem Kısımalı ³ and Efe Kurtdede ³

¹ Department of Biochemistry, Faculty of Medicine, Duzce University, Düzce 81620, Turkey

² Department of Genetics, Faculty of Medicine, Duzce University, Düzce 81620, Turkey; receperoz@duzce.edu.tr

³ Department of Biochemistry, Faculty of Vet. Medicine, Ankara University, Ankara 06560, Turkey; efekurtdede@gmail.com (E.K.)

* Correspondence: mervealpay@duzce.edu.tr; Tel.: +90-505-787-8799

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Abstract: Silymarin is from the seeds of *S. maritima* plant which is liver protective agent used in various diseases like cirrhosis, toxic chemicals, hepatitis. Previous researches have reported effects anti-inflammatory, antiapoptotic, anti-carcinogenic, antiviral, anti-fibrotic and antiangiogenic although Silymarin mechanism is still not fully understood. We aimed to determine this flavonoid role on different cancer type. In study, Silymarin was investigated on colon adenocarcinoma. Cytotoxic effects of Silymarin on Caco-2 cells were determined by MTT. Time-dependent and varied concentrations were evaluated. Optimal activity was found after 100 μ M. Specifically, we applied AgNOR technique with 100 μ M by 48 h. AgNOR proteins are indicator of cellular proliferation. AgNOR staining was performed by Perle-Lindnerin protocol following cell fixation. AgNOR number and total AgNOR area/nuclear area (TAA/NA) values were calculated. The flavonoid showed cytotoxic and apoptotic effects though. There wasn't statistically significant difference total AgNOR numbers of experimental group compare to control. Although viewed decrease among TAA/NA values of increased Silymarin administration. This indicate certain amount of Silymarin has protective effect against human colon cancer depending concentration. Further studies at molecular level are required to support our findings and AgNOR can be used as indirect marker to determine treatment strategy and prognosis of cancer by nucleus condition in single cell.

Keywords: cancer diagnosis; colon adenocarcinoma; NOR; Silymarin

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