



ANTICANCER EFFECT OF PROBIOTIC *SACCHAROMYCES BOULARDII* SUPERNATANT ON HUMAN CACO-2 CELLS; AN IN VITRO STUDY

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ABSTRACT

Colon cancer is an important worldwide cause of death in human which is treated commonly by chemotherapy, radiotherapy and surgery methods with different side effects. Natural treatment such as microbial cell wall extract is suggested to be used as an effective alternative of chemical drugs for treatment of colon cancers without any side effect. *Saccharomyces boulardii* is used in probiotic foods and supplement capsules in viable and yeast cell wall extract forms. At the present study, we in vitro investigate the anticancer properties of *S. boulardii* supernatant (SBS) on colon cancer cells. We found that, SBS without dilution after 72 hours successfully killed the colon cancer cells. Also, this treatment induced apoptosis and down-regulated the expression of survivin gene significantly. However, effects of SBS without dilution after 24 and 48 hours were considerable. Downregulation of survivin gene expression by functional compounds in SBS induced apoptosis and killed the colon cancer cells successfully. However, future in vivo and in vitro investigation of anticancer effects of SBS on other cancer cells are suggested to be implemented.
