Anticancer Activity of Polysaccharide Isolated from *Fomes fomentarius*  
(말굽버섯에서 분리된 다당류의 항암활성)

Rekha Jakhar  ⋅ Souren Paul  ⋅ Sun Chul Kang
리카자카  ⋅ 소렌폴  ⋅ 강선철

Department of Biotechnology, Daegu University, Kyoungsan, Kyoungbook 712-714, Republic of Korea
대구대학교 생명공학과

Mushrooms are known to complement chemotherapy and radiation therapy by countering the side-effects of cancer. Recently, a great deal of interest has been developed to isolate novel bioactive compounds from mushrooms because of their numerous health beneficial effects. Chemically water-extractable polysaccharide (MFKF-AP1β) was isolated from fruiting bodies of mushroom *Fomes fomentarius*. In this research, we investigated the anticancer effects of MFKF-AP1β on human lung carcinoma A549 cell. Results showed that MFKF-AP1β distinctly inhibited A549 cells growth in a dose-dependent manner and induced cell apoptosis evidenced by apoptosis assay. Besides that, MFKF-AP1β induced the LDH release and causes morphological alterations. Furthermore, the MFKF-AP1β (25–100 μg/ml) resulted in a significant single strand DNA breakage, on A549 cells as shown by comet assay. Taken together, our results demonstrate that MFKF-AP1β possesses strong antitumor activities through the induction of apoptosis. All these results suggested that MFKF-AP1β has evident anticancer activity through apoptotic induction.

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**Corresponding author** : E-mail, sckang@daegu.ac.kr; TEL, +82-53-850-6553