F-P-2

Anticancer Activity of Taxillus yadoriki Parasitic to Neolitsea sericea against Non-Small Cell Lung Carcinoma

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In this study, we evaluated the anti-cancer activity and potential molecular mechanism of 70% ethanol extracts of branches from Taxillus yadoriki parasitic to Neolitsea sericea (TN-NS-B) against human lung cancer cells, A549. TY-NS-B dose-dependently suppressed the growth of A549 cells. TY-NS-B decreased β -catenin protein level, but not mRNA level in A549 cells. The downregulation of β -catenin protein level by TY-NS-B was attenuated in the presence of MG132. Although TY-NS-B phosphorylated β -catenin protein, the inhibition of GSK3β by LiCl did not blocked the reduction of β -catenin by TY-NS-B. In addition, TY-NS-B decreased β -catenin protein in A549 cells transfected with Flag-tagged wild type β -catenin or Flag-tagged S33/S37/T41 mutant β -catenin construct. Our results suggested that TN-NS-B may downregulate β -catenin protein level independent on GSK3β -induced β -catenin phosphorylation. Based on these findings, TY-NS-B may be a potential candidate for the development of chemopreventive or therapeutic agents for human lung cancer.

Keywords: Anticancer activity, β -catenin, Cancer chemoprevention, Cell growth, Taxillus yadoriki

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