

Anti-cancer Activity of the Leave Extracts of *Rodgersia podophylla* through β -catenin Proteasomal Degradation in Human Cancer Cells

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In this study, we evaluated the effect of *Rodgersia podophylla* leave extracts (RPL) on β -catenin level in human cancer cells. RPL dose-dependently inhibited cell proliferation in SW480, A549, MDA-MB-231, PC-3 and AsPC-1 cells. RPL dramatically decreased β -catenin protein level in all cancer cells. However, decreased level of β -catenin mRNA expression was observed in A549 and AsPC-1 cells. In addition, RPL dramatically attenuated cyclin D1 mRNA expression in all cancer cells. MG132 decreased the downregulation of β -catenin protein level induced by RPL in all cancer cells, while RPL-induced downregulation of β -catenin was inhibited by the inhibition of GSK-3 β by LiCl in MDA-MB-231 cells. RPL phosphorylated β -catenin and GSK-3 β . In addition, the inhibition of GSK-3 β by LiCl attenuated RPL-induced β -catenin phosphorylation. Based on these findings, RPL may be a potential candidate for the development of chemopreventive or therapeutic agents for human cancer.

Key words: Anticancer activity, β -Catenin, Cancer chemoprevention, *Rodgersia podophylla*

[This work was supported by Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education (NRF-2016R1D1A3B03931713 and NRF-2018R1A6A1A03024862).]