

Anticancer Activity of *Sageretia thea* Through β -catenin Proteasomal Degradation in Human Colorectal Cancer and Lung Cancer Cells

Ha Na Kim¹, Su Bin Park¹, Jeong Dong Kim¹ and Jin Boo Jeong^{1,2*}

¹Department of Medicinal Plant Resources, Andong National University, Andong 36729, Republic of Korea

²Agricultural Science and Technology Research Institute, Andong National University, Andong, 36729, Republic of Korea

In this study, we evaluated the effect of branch (STB) and leave (STL) extracts from *Sageretia thea* on β -catenin level in human colorectal cancer cells, SW480 and lung cancer cells, A549. STB and STL dose-dependently suppressed the growth of SW480 and A549 cells. STB and STL decreased β -catenin level in both protein and mRNA level. MG132 decreased the downregulation of β -catenin protein level induced by STB and STL. However, the inhibition of GSK3 β by LiCl or ROS scavenging by NAC did not block the reduction of β -catenin protein by STB and STL. Our results suggested that STB and STL may downregulate β -catenin protein level independent on GSK3 β and ROS. Based on these findings, STB and STL may be a potential candidate for the development of chemopreventive or therapeutic agents for human colorectal cancer and lung cancer.

Keywords: Anticancer activity, β -catenin, Cancer chemoprevention, *Sageretia thea*

[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).]