



***Siegesbeckia glabrescens* induced apoptosis via mitochondria pathway in MCF-7 cells**

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Siegesbeckia glabrescens(SG), an herbal medicine, which has been used for the treatment of arthritis, and fever, as well as detoxification properties. According to the detoxification properties of SG, we have already reported that the apoptotic effect of SG in human liver cancer cell (HepG2).

In this report that we investigated whether SG inhibits the growth of human breast cancer cell line (MCF-7), and the cell death caused by SG was due to apoptosis. Cell viability was measured by XTT and Tryphan blue exclusion. SG significantly reduced MCF-7 cells viability in a dose-dependent manner. Next, we evaluated morphological nuclear change, namely, chromatin condensation and DNA fragmentation. SG treatment caused morphological change such as cell shrinkage, nuclear condensation and cell blebs. Furthermore, we examined whether SG influences the mitochondria pathway of apoptosis. Western blot analysis revealed that the cleavage of procaspase-9 and 3 by SG in a dose dependent manner. Moreover, we found that SG decreased Bcl-2 mRNA expression in MCF-7 cells.

Taken together, we suggest that the apoptosis induced by SG was followed by decreasing of Bcl-2 mRNA expression and activating the caspase-9, -3, and SG is a potentially useful a chemotherapeutical agent in human breast cancer cell.

Key words: *Siegesbeckia glabrescens*, apoptosis, mitochondria pathway, MCF-7 cell