In vitro cytotoxicity of Strobilanthes crispus ethanol extract on hormone dependent human breast adenocarcinoma MCF-7 cell

ABSTRACT

Background: Strobilanthes crispus has been traditionally used as antidiabetic, anticancer, diuretic, antilytic and laxative agent. However, cytotoxicity and antiproliferative effect of S. crispus is still unclear. Results: Strobilanthes crispus was able to reduce cell viability and proliferation in MTT and BrdU assays. Both cell cycle progression and Tunel assay suggested that IC50 of S. crispus ethanol extract induced sub-G1 cell cycle phase, and DNA fragmentation. On the other hand, translocation of mitochondria cytochrome c release, induction of caspase 3/7 and p53 while suppress XIAP on treated MCF-7 cell were also observed in this study. Conclusion: Our findings suggest that S. crispus ethanol extract induced apoptosis and DNA fragmentation on hormone dependent breast cancer cell line MCF-7 via mitochondria dependent p53 apoptosis pathway.

Keyword: Apoptosis; MCF-7; P53; Strobilanthes crispus