

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*