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Anticancer and pro-apoptotic effects of Triphala extract in human breast cancer MCF-7 cells

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Triphala, an ayurvedic formulation, showed a substantial antiproliferative effect against various human cancer cells including breast cancer cells. *In vitro*, anticancer and pro-apoptotic studies were carried out using MCF-7 breast cancer cell line to demonstrate its anticancer activity. Cell proliferation by MTT on Human breast cancer cells (1×10^6 /ml) Flow cytometric cell cycle analysis, ELISA based quantification of cytosolic cytochrome *c*, Bax and Bcl-2 levels and colorimetric assays of caspases-3 and -9 were performed using breast cancer cells to demonstrate the pro-apoptotic activity of triphala.

Triphala showed substantial anti-proliferative activity. In pro-apoptotic studies, sub-G0 cell phase population elevation, an increase of cytosolic cytochrome *c* and Bax levels, decrease of Bcl-2 levels and enhanced caspases-3 and -9 activities were observed in triphala-treated MCF-7 breast cancer cells. The results concluded that anticancer and apoptosis-inducing potential of triphala in MCF-7 breast cancer cells. Further detailed studies are in progress.