9-Methoxycamptothecin from *Nothapodytes foetida* Induces Apoptosis in Murine Sarcoma S180 Cells

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9-Methoxycamptothecin (MCPT) was found to have antitumour activities through topoisomerase inhibition. However, the type of cell death induced in the tumour cells treated with MCPT was not elucidated. In this study, MCPT and camptothecin were isolated from *Nothapodytes foetida* distributed in Hubei Province, China and identified by NMR spectroscopy. MCPT was tested by the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazoliumbromide (MTT) assay using camptothecin as reference. Annexin V-FITC/propidium iodide double staining and real-time PCR were also performed. The IC₅₀ value was (0.385 ∂ 0.08) μ m. The apoptosis rates increased from 9.5% to 17.27%, 30.14%, and 66.46% with an increase in MCPT concentrations from 0, 0.19, 0.38, to 0.95 μ m, respectively. The ratio of Bax/Bcl-2 also increased from 1 to 1.61, 2.43, and 4.57, respectively. Bax and Bcl-2 are crucial to the mitochondria pathway. The results indicate that the mitochondria pathway may be involed in MCPT-induced murine sarcoma S180 apoptosis.

Key words: Bcl-2 Family Protein, Camptothecin Derivative, Intrinsic Apoptotic Pathway