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Investigation of the Antitumour and Anticancer Effects of Neferine by Inducing Stress of Endoplasmic Reticulum in Human Cervical Cancer-Derived Cells (HeLa)

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ABSTRACT The leading prevalent reason of cancer demise in women is cervical cancer. The endoplasmic reticulum (ER) is necessary in order to provide homeostasis of the cell as well could have a close relation with cancer. Neferine may exert anticancer effects by inducing apoptosis and stress of ER. The researchers observed neferine's antitumoural efficacy in human cervical cancer derived cells (HeLa) via ER stress. Neferine was applied to the HeLa cells, and a viability test was performed by the methyl thiazolyl tetrazolium proliferation (MTT) assay. Analysis of MTT assay demonstrated that neferine effectively blocked HeLa cells development in a dose-dependently. Neferine may promote ER stress and enhance anticancer efficacy in HeLa cells. Based on Western blot and quantitative real-time polymerase chain reaction (qPCR) analyses, the researchers found that neferine inhibited cervical cancer cells via the ER stress pathway. The results indicate that neferine is a potent anticancer therapeutic candidate.