MORPHOLOGICAL AND APOPTOTIC EFFECTS INDUCED BY POUTERIN, A PLANT LECTIN-LIKE PROTEIN, IN TUMORAL CELL LINE

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Pouterin is a lectin-like protein from seeds of *Pouteria torta* that has showed to induce citotoxical effects on human cervical cancer cells line. In this work, the morphological, filamentous actin arrangement alterations and apoptotic effects in HeLa cell culture were investigated after Pouterin treatment. Cell grown on coverslip were incubated with Pouterin (5 µg/mL) for 2 h. Control and treated cells were fixed in 4% formaldehyde in PBS, stained with 0.025 % toluidine blue in McILvaine buffer at pH 4.0 or FITC-Phalloidin. The morphological and apoptotic effects were examined by light or fluorescence microscopy and by the terminal dUTP nick-end-labeling (TUNEL) method. Morphological alterations (rounding, cellular shrinkage and chromatin condensation) consistent with apoptotic cell death were seen after 2 h of treatment with Pouterin. HeLa cells incubated with Pouterin showed disruption of the actin cytoskeleton. DNA fragmentation was detected by TUNEL labeling and was confirmed by agarose gel electrophoresis. These results show that Pouterin induce morphological change and disturbance of cytoskeleton in HeLa cell and that it can induce apoptosis in cultured Human cervical cancer cells.

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