B16-F10 melanoma cell death induced by *Moringa oleifera* coagulant lectin (cMoL)

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Melanoma is a malignant neoplasia most frequently arising from the skin and mucosa. It is an important type of cancer, since it is very invasive and is highly metastatic. Lectins are hemagglutinating proteins that may present cytotoxic activity through specific carbohydrate recognition; they can be used to differentiate malignant from benign tumors. *Moringa oleifera* is a tropical plant, with great economic importance and used in drinking water purification. cMoL is a coagulant and thermostable lectin purified from tree seeds. The aim of this work was to investigate the cytotoxic activity of cMoL in B16-F10 melanoma cells. The lectin was purified after extraction with 0.15M NaCl and affinity chromatography. Cell viability and antiproliferative effects were measured by trypan blue after cell’s treatment with different concentrations of cMoL (50-500 µg/mL). The percentage of cells in apoptosis and necrosis was determined by flow cytometry. cMoL affected B16-F10 cell viability in a dose-dependent manner after 48 h of treatment and showed IC<sub>50</sub> of 250 µg/mL. cMoL decreased cell viability (56%) and promoted dose-dependent cell death (47.7%). The results suggest that cMoL is a cytotoxic lectin because it induces cell death in B16-F10 cells.

Keywords: Cell death, cytotoxicity, *Moringa oleifera* coagulant lectin.

Supported by: CNPq, CAPES, FAPESP, FACEPE and FACEPE/PRONEX.