Abstract

Plant-derived substances have been considered as important sources of drugs, including antineoplastic agents. Babassu mesocarp is popularly used in Brazil as a food additive, and in popular medicine against several conditions, such as inflammations, menstrual pains and leukaemia. From babassu Orbignya speciosa (Mart.) Barb. Rodr. [Arecaceae (Palmae)] epicarp/mesocarp, an ethanol extract was prepared and named OSEME, which was tested on the viability, morphology and metabolism of several cell lines, such as the leukaemic cell lines, HL-60, K562 and the latter multidrug resistant counterpart K562-Lucena 1, the human breast cancer cell line MCF-7, the mouse fibroblast cell line 3T3-L1 and fresh human lymphocytes. OSEME promoted a dose-dependent decrease on the viability of all cells. This effect was much more pronounced on the tumoral cell lines than on non-tumoral cells, a phenomenon revealed by the dose of OSEME which promotes half of maximal effect (ID50). The decrease on viability was followed by shrinkage of cells, alteration on their morphology, and a markedly nuclear condensation. Curiously, stimulation of 6-phosphofructokinase activity (6.6-times) was observed on HL-60 cells, treated with OSEME, when compared to control treated with ethanol (vehicle). These results support evidences to suggest OSEME as a promising source of novel antineoplastic agents.

Keywords

Antitumoral agents, ethanol extract, Orbignya speciosa.