Anticancer and Antifungal Activities of Extracts of an Endophytic Fungus from the Brazilian Amazonian plant *Rollinia* sp.

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The family Annonaceae had emphasized its importance in the 80's, due to the isolation of acetogenins, molecules important by anticancer activities and as models for study of symptoms of Parkinson and Alzheimer. Pharmacological studies also revealed antifungal and anti-protozoal actions. The 75 species of the *Rollinia* genus, Annonaceae, have been poorly studied, including their endophytes. Thus, 59 fungi were isolated from an Amazonian *Rollinia* sp. for testing their extracts. The ethanol extract of one of them (CR1 1.1) was assayed *in vitro* against human tumor cell lines HCT-8 (colon), MDA-MB-435 (breast) and HL-60 (leukemia). It was found high potential of activities for the extract at 10 mg mL^{-1}, since the growth of cell lines were inhibited at 76.89%, 70.58% and 61.57% respectively. Consequently, the extract was assayed for determining its inhibitory concentrations (IC_{50}) for the same cell lines and for the SF-295 (CNS) one. The respective IC_{50} values were 9.03, 5.45, 8.79 and 15.8 µg/mL, all shown high activity (IC_{50}< 20 µg/mL). The strain was also fermented in PDY and the medium and mycelial extracts evaluated against an anticancer bio-indicator *Penicillium avellani* strain. The inhibition halos were on average 2 and 3 cm, respectively. All positive results above attest the great potential of that endophyte from *Rollinia* sp. to fight tumor cells and as fungicide, signing the huge possibilities of the endophytic fungi from Amazon plants.

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