In Vitro Antileishmanial Activity and Cytotoxic Effect of *Cratylia mollis* Seed Lectin

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INTRODUCTION: The treatment of leishmaniasis is limited due to toxicity displayed by most of the drugs currently used. In an attempt to find new agents with leishmanicidal activity, several compounds have been investigated. *Cratylia mollis* is a natural forage plant from the Northeast of Brazil, and its seed lectin (Cramoll) has shown anti-inflammatory and wound-healing activities. **OBJECTIVE:** The objective of this work was to evaluate the biological activity of the lectin Cramoll 1,4 against *Leishmania braziliensis* and its cytotoxic potential on mammalian cells. **MATERIAL AND METHODS:** In vitro tests were performed on *L. braziliensis* promastigote forms and included the cytotoxic effect of this lectin in peritoneal macrophages. Parasites (1 × 10^6 cells/mL) were incubated at 26 °C in Schneider's Drosophila medium supplemented with 10% FBS in the absence or presence of different concentrations of Cramoll 1,4 (250, 125, 62.5, 31.25 and 15.625 µg/mL). Cell density was determined daily using a Neubauer chamber. The IC50 was estimated after 48 h of drug incubation. In order to evaluate the cytotoxic effect, peritoneal macrophages from Balb/c mice were incubated for 48 h in RPMI in the absence or presence of the different concentrations of Cramoll 1,4 (250, 125, 62.5, 31.25 and 15.625 µg/mL). The cell viability was evaluated by MTT assay. **RESULTS AND DISCUSSION:** The lectin showed significant inhibitory effect on the growth of promastigote forms (IC50 = 112.038 µg/mL) and low toxicity against mammalian cells (CC50 = 173.47 µg/mL). The selectivity index showed that Cramoll 1,4 was more toxic to promastigote forms (SI = 1.54) than to macrophages. **CONCLUSION:** Results indicate that Cramoll 1,4 presents low toxicity to mammalian cells and inhibitory activity in vitro on promastigotes of *L. braziliensis*, suggesting the use of this lectin as a promising agent for the treatment of cutaneous leishmaniasis.

Word Keys: Lectin, *Cratylia mollis*, antileishmanial activity, *Leishmania braziliensis*, citotoxity.
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