NEUROTOXICITY OF ALKALOIDS EXTRACTED FROM *PROSOPIS JULIFLORA* LEAVES ON NEURON AND NEURON/GLIAL CELLS PRIMARY CULTURES.

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Ours previous studies shown that total alkaloidal extract (TAE) and alkaloidal fractions from *P. juliflora* leaves act directly on glial cells, inducing activation and/or cytotoxicity. In this study, TAE and four alkaloidal fractions (0.3-40µg/ml), were tested for 24h on neuron and neuron/glial cells primary cultures derived from the cortex of fetal rats. MTT test and trypan blue staining revealed that TAE, F29/30, F31/33, F32 and F34/35 were cytotoxic to cortical neurons. The EC_{50} values for TAE, F29/30, F31/33, and F32 were respectively 2.7, 7.8, 2.9, and 1µg/ml. The EC_{50} value for F34/35 was higher than 40µg/ml. In neuron/glial cells primary cocultures, exposed to TAE and the most toxic fraction (F32) at EC_{50} values, Rosenfeld's staining revealed astrocytes with contracted cell body and many processes. Moreover, immunocytochemistry for activated microglia, revealed a significant increase ($P<0.05$) in the proportion of OX-42-positive cells. On the other hand, beta-tubulin immunolabeling showed that TAE and F32 induced a depletion in the number of overlying neurons, the few neurons presented shorted neurits. Taken together these results shown that TAE and fractionated alkaloids from *P. juliflora* act directly on neurons and glial cells inducing neurotoxicity and activation, and may have an impact on neuronal damages observed on intoxicated animals. Supported by CNPq and FAPESB.