



46°

*BRAZILIAN CONGRESS OF
PHARMACOLOGY AND
EXPERIMENTAL THERAPEUTICS*

From Cell Biology to Therapeutics

PROGRAM

21-24 OCTOBER 2014

Fortaleza - CE - Brazil

Fábrica de Negócios

PROGRAM

Fábrica de Negócios

Fortaleza CE

Brazil

October 21-24, 2014

09.114

Potential anti-allergic action of three medicinal plants used in Amazon region: Effects on histamine release. de Oliveira DM^{1,2}, Di Stasi LC³, Paracampo NENP⁴, Lameira OA⁵, Crespo-Lopez ME¹ ¹ICB-UFPA – Farmacologia Molecular, ²ISPA-UFRA – Farmacologia, ³IBB-Unesp-Botucatu – Fitoterápicos, ⁴EMBRAPA – Agroindústria, ⁵EMBRAPA – Biotecnologia

Introduction: In the Amazon region, *Morinda citrifolia* Linn (noni), *Mansoa alliacea* (Lam.) A.H. Gentry (cipó d'álho) and *Luehea speciosa* Willd (açoita-cavalo) are used in traditional medicine to treat diseases of inflammatory or allergic origin. Mast cells are key cells of allergic responses and they release proinflammatory mediators, especially histamine, with spasmogenic and vasoactive actions. **Aim:** To analyze effects on histamine release of mast cells exposed to three medicinal plants used in Amazon region. **Methods:** Plants were dried at 45°C for 120h and posteriorly submitted to extraction (1h at 80°C) with 70% ethanol. Final total volume was concentrated in rotary evaporator to eliminate ethanol and diluted in 0.2% dimethylsulfoxide. Mast cells of rat peritoneum were *in vitro* exposed to 0–100 µg/mL of each extract for 15 minutes and histamine release was measured by an automatic fluorometric method (Shore, J.Pharmacol.Exp. Ther., 127;182; 1959). Also, effects of the extracts on histamine release induced with compound 48/80 (0,5 µg/mL) and A23187 ionophore (1,6 µg/mL) were assayed. ANOVA followed by Tukey test were used to analyze data. Additionally, a qualitative phytochemical screening (Gonzalez, Phytomedicine., 9,125, 2002) of each extract was performed. **Results and discussion:** No extract interfered in the spontaneous release of histamine. Lower concentrations (3 and 0,3 µg/mL) of *M. citrifolia* L. fruits significantly inhibited histamine release (about 95% and 96%, respectively) induced by compound 48/80 and A23187 ionophore. Three and ten µg/mL of extract of *M.citrifolia* L. leaves also inhibited histamine release induced by compound 48/80 in 81% and 83 %, respectively. Extract of *M.alliacea* leaves (100 µg/mL) was able to inhibit about 89% of histamine release induced by compound 48/80. No changes on histamine release induced by ionophore were detected after incubation with *L. speciosa* W. However, when histamine release was stimulated by compound 48/80, 10 and 100 µg/mL of this extract inhibited about 97% of histamine release. Catechins, steroids, alkaloids and coumarin-related compounds in *M. alliacea*; steroids, triterpenoids, tannins in *M. citrifolia* L. and catechins, flavonoids, steroids and tannins in *L. speciosa* W. were identified as possible compounds responsible for the effects. **Conclusion:** The present study demonstrates for the first time the inhibitory action of three species of medicinal plants on histamine release. Flavonoids, tannins, catechins, terpenoids and coumarin are highlighted as possible compounds responsible for these actions. **Animal Ethics Committees** n° 42/04/unesp. **Acknowledgments:** CNPq, Fundação Amazônia Paraense de Amparo à Pesquisa -FapespA.