Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense)*
Lat. Am. J. Pharm. **29** (5): 725-30 (2010)

Original Article

Received: September 30, 2009
Accepted: December 8, 2009

Antimicrobial and Cytotoxic Activity of Fruit Extract from *Syzygium cumini* (L.) Skeels

Ketylin F. MIGLIATO [1,3]*, João C.P. MELLO [4,5], Olga Z. HIGA [7], Andrea C.D. RODAS [6], Marcos A. CORRÊA [1], Maria J.S. MENDES-GIANNINI [2,3], Ana M. FUSCO-ALMEIDA [2,3], Antonio C. PIZZOLITTO [2,3], Hérida R.N. SALGADO [1,3]

[1] *Departamento de Fármacos e Medicamentos &* [2] *Departamento de Análises Clínicas, Faculdade de Ciências Farmacêuticas, University of São Paulo State (UNESP), Rodovia Araraquara-Jaú, km 1Araraquara – SP, Brazil*
[3] *Programa de Pós-Graduação em Ciências Farmacêuticas – UNESP*
[4] *Departamento de Farmácia e Farmacologia, Universidade Estadual de Maringá (UEM), Maringá, PR, Brazil*
[5] *Programa de Pós-Graduação em Ciências Farmacêuticas, UEM, Maringá*
[6] *Instituto de Pesquisas Energéticas e Nucleares, Centro de Biotecnologia, São Paulo, Brazil*

***SUMMARY*. The aim of the present study was to evaluate the antimicrobial and cytotoxic activity of the ethanolic extract of *S. cumini* according to the Clinical and Laboratory Standards Institute reference method (with modifications), determining the minimal inhibitory and lethal concentration. Activity against Gram-positive *(Staphylococcus aureus* and *S. epidermidis)*, Gram-negative *(Pseudomonas aeruginosa)* and yeast of *Candida* sp and *Cryptococcus neoformans* was evaluated. The effects of the fruit extract were examined in hamster cells ovaries in concentrations ranging from 1250.0 a 4.9 µg/ml, measuring the reduction of the tetrazolium salt 3-(4,5-dimethylthiazol-2-yl)-5-(3-carboxymethoxyphenyl)-2-(4-sulphophenyl)-2H-tetrazolium. The extract showed both bactericidal and fungicidal activity among the various microorganisms tested and the MIC ranging from 7.8 to 250 µg/ml. The MIC, MBC and MFC should values that were similar for all the microorganisms. Cytotoxicity index of the dried extract corresponded to the concentration of 400 µg/ml. The extract could potentially be used in topical antimicrobial products. Thus, the activity of extract was potent to bacteria and mainly to non-*albicans* species and *C. neoformans*.**

KEY WORDS: Antibacterial, Antifungal, Antimicrobial activity, Cytotoxic activity, Jambolan, Minimum inhibitory concentration, Minimal lethal concentration, *Syzygium cumini*.

* Author to whom correspondence should be addressed. *E-mail:* migliato@fcfar.unesp.br