



## Essential Oil from *Eucalyptus benthamii* Maiden et Cabbage Reduces Nitric Oxide Production in Lipopolysaccharide-induced Murine Peritoneal Macrophages

Patrícia M. DÖLL-BOSCARDIN<sup>1</sup>, Martinha A. ALMEIDA<sup>2</sup>, Tomoe NAKASHIMA<sup>1</sup>, Josiane de F. PADILHA DE PAULA<sup>2</sup>, Carla C. KANUNFRE<sup>3</sup> & Paulo V. FARAGO<sup>2\*</sup>

<sup>1</sup> Postgraduate Program in Pharmaceutical Sciences, Federal University of Paraná, Curitiba, 632 Prefeito Lothário Meissner Ave, Zip Code 80210-170, Curitiba, Brazil

<sup>2</sup> Postgraduate Program in Pharmaceutical Sciences & <sup>3</sup> Department of General Biology, State University of Ponta Grossa, 4748 Carlos Cavalcanti Ave, Zip Code 84030-900, Ponta Grossa, Brazil

**SUMMARY.** Few studies are concerned about the essential oil extracted from leaves of *Eucalyptus benthamii* Maiden et Cabbage that shows high content of  $\alpha$ -pinene. The goal of this paper was to investigate the *in vitro* effect of the essential oil of *E. benthamii* and  $\alpha$ -pinene on lipopolysaccharide (LPS)-induced nitric oxide (NO) production in mouse peritoneal macrophages. Macrophages were harvested by washing with phosphate buffered saline and cultured with 10  $\mu$ g/mL LPS. Three concentrations (5, 10, and 20  $\mu$ g/mL) of the essential oil of *E. benthamii* and  $\alpha$ -pinene were investigated. Nitrite levels were measured based on the Griess reaction, an indirect assay for NO production. The essential oil of *E. benthamii* significantly suppressed NO production in murine peritoneal macrophages at 10 and 20  $\mu$ g/mL. In contrast,  $\alpha$ -pinene did not inhibit NO production.

**KEY WORDS:**  $\alpha$ -pinene, Essential oil, *Eucalyptus benthamii*, Myrtaceae, Nitric oxide production.

\* Author to whom correspondence should be addressed. E-mail: pvfarago@gmail.com