



N-phenylmaleimide derivatives as mimetic agents of the pro-inflammatory process: myeloperoxidase activation

Vânia F. Noldin¹, Silvana V. G. Vigil², Rafael De Liz², Valdir Cechinel-Filho³, Tânia S. Fröde², Tânia B. Creczynski-Pasa¹

¹Department of Pharmaceutical Sciences and ²Clinical Analysis, Center of Science and Health, Federal University of Santa Catarina, 88040-900 Florianópolis – SC, Brazil

³Nucleus of Chemico Pharmaceutical Investigations, Itajaí Valley University, 88302-202 Itajaí – SC, Brazil

Correspondence: Tania B. Creczynski Pasa, e-mail: taniac@mbx1.ufsc.br, taniabcp@gmail.com

Abstract:

Myeloperoxidase (MPO) is an important enzyme that catalyzes the reaction between hydrogen peroxide and chloride to generate hypochlorous acid, which oxidizes a range of biomolecules and has been associated with inflammatory diseases. The synthetic compounds *N*-phenylmaleimide (NFM) and 4-methyl-*N*-phenylmaleimide (Me-NFM) increased the MPO activity *in vitro* (of isolated enzyme and in isolated cells after animal treatment) and *in vivo* assays. MPO-induction may represent a good model system to investigate the molecular and cellular mechanisms of oxidative cell injury induced by activated neutrophils, and the interactions between damaging species involved in the respiratory burst.

Key words:

N-phenylmaleimides, myeloperoxidase, inflammation, neutrophils, hypochlorous acid
