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Anti-oxidation activity of xanthenes and anthraquinones from *Cratoxylum formosum*

Pirasut Rodanant, and Chanuntorn Thongsakulwong
Mahidol University, Thailand

Periodontitis is a chronic inflammatory and destructive disease of the periodontium. It results from the interaction between periodontium and environmental factors, mainly Gram-negative bacteria or their cell wall components, and the host immune response. It is conceivable that endotoxins and/or proinflammatory cytokines could trigger resident and/or immigrant cell populations for the expression of inducible NOS (iNOS) which are enzymes producing nitric oxide (NO), a free radical which its detrimental roles including the stimulating effect of NO on the activity of the osteoclasts resulting in alveolar bone resorption. Thus iNOS-inhibitor compounds can be used for the management of periodontal disease. *Cratoxylum formosum* ssp. *pruniflorum* widely found in Southeast Asia and belongs to the family of Guttiferae. Its crude extract from different parts showed inhibitory effects on the growth of periodontopathic bacteria and the release of cytokines from LPS-stimulated monocytes. The objective of this study was to investigate the potential of some pure compounds (xanthenes and anthraquinones) on anti-oxidation potential by measuring the stable oxidative metabolite (Nitrite: NO) with Griess reaction using ascorbic acid as positive control. The results showed that cell survival decreased with an increase in concentration of the pure compounds and most studied pure compounds could significantly reduce nitrite production from LPS-activated U937 cells. It might postulate that selected xanthenes and anthraquinones from Tiew contained anti-oxidation activity which might possibly be potential used as manufactured medication in treating periodontal disease.

Biography

Chanuntorn Thongsakulwong has received her Bachelor's degree in Dentistry from Mahidol University in 2010. She has been trained in General Dentistry at Department of Advanced General Dentistry, Faculty of Dentistry, Mahidol University (2013).

pirasut.rod@mahidol.ac.th

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