Latin American Journal of Pharmacy
(formerly *Acta Farmacéutica Bonaerense)*
Lat. Am. J. Pharm. **31** (6): 918-22 (2012)

Short Communication
Received: June 4, 2012
Revised version: July 12, 2012
Accepted: July 13, 2012

A Simple HPLC Method for the Determination of Pentyl Gallate and Identification of an Alkaline Degradant

Regina G. KELMANN [1], Daiane O. DIAS [1], Ricardo J. NUNES [2], Helder F. TEIXEIRA [1], Valquiria L. BASSANI [1], Cláudia M.O. SIMÕES [3] & Letícia S. KOESTER [1]*

[1] *Universidade Federal do Rio Grande do Sul, Faculdade de Farmácia, Programa de Pós-Graduação em Ciências Farmacêuticas, Porto Alegre, RS, Brazil.*
[2] *Universidade Federal de Santa Catarina, Laboratório Relação Estrutura Atividade, Departamento de Química, Florianópolis, SC, Brazil.*
[3] *Universidade Federal de Santa Catarina, Laboratório de Virologia Aplicada, Depto. de Ciências Farmacêuticas, Florianópolis, SC, Brazil.*

***SUMMARY*. Pentyl gallate (PG) is a gallic acid n-alkyl ester with a promising antiherpetic topical activity. No method for PG quantification is described in the literature. Therefore, the objective of this investigation is to develop and validate a simple method for determination of PG by High performance liquid chromatography (HPLC) considering its future application in therapy. A nanoemulsion was proposed as PG delivery system due to its low aqueous solubility that limits its delivery through the skin. Chromatographic separation was achieved on a C18 column with 50:49:1 (%, v/v) methanol:water:trifluoroacetic acid (TFA) as mobile phase at a flow rate of 1.2 mL/min; detection at 275 nm. The method was validated for linearity, precision, accuracy, robustness and specificity. The degradant detected under alkaline condition was structurally characterized by time-of-flight mass spectrometry (TOF-MS). All results indicate the method is adequate for PG analysis.**

KEY WORDS: HPLC, Nanoemulsion, Pentyl gallate.

* Author to whom correspondence should be addressed. *E-mail:* leticia.koester@ufrgs.br

ISSN 0326-2383