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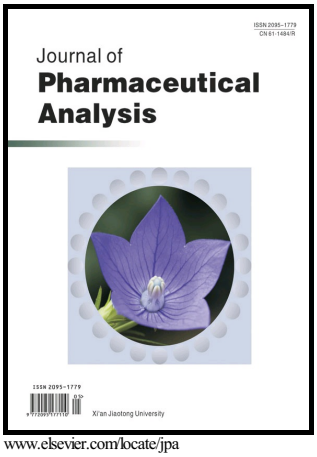

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PII: S2095-1779(16)30076-4
DOI: http://dx.doi.org/10.1016/j.jpha.2016.08.001
Reference: JPHA329

To appear in: *Journal of Pharmaceutical Analysis*

Received date: 5 April 2016
Revised date: 1 July 2016
Accepted date: 2 August 2016

Cite this article as: Juliana Kovalczuk de Oliveira, Débora Fernanda Veres Ronik, Jociani Ascari, Rubiana Mara Mainardes and Najeh Maissar Khalil, A stability-indicating high performance liquid chromatography method to determin apocynin in nanoparticles, *Journal of Pharmaceutical Analysis* http://dx.doi.org/10.1016/j.jpha.2016.08.001

A stability-indicating high performance liquid chromatography method to determine apocynin in nanoparticles

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Abstract

In this study, a fast, specific, sensitive, precise and stability-indicating high performance liquid chromatography (HPLC) method to determine the drug apocynin in bovine serum albumin (BSA) nanoparticles was developed and validated. Chromatographic analyzes were performed on an RP C18 column and using a photodiode array detector at a wavelength of 276 nm. Mobile phase consisted of a mixture of acetonitrile and 1% acetic acid (60:40, v/v), and it was eluted isocratically at a flow rate of 0.8 mL/min. The retention time of apocynin chromatographic peak was approximately 1.65 min. The method was linear, precise, accurate and specific in the range of 5-100 μg/mL. The intra- and inter-day precision presented relative standard deviation (RSD) values lower than 2%. The method was robust regarding changes in mobile phase proportion, but not for flow rate. Limits of detection and quantitation were 78 ng/mL and 238 ng/mL, respectively. Apocynin was exposed to acid and alkali hydrolysis, oxidation and visible light. The drug suffered mild degradation under acid and oxidation conditions and great degradation under alkali conditions. Light exposure did not degrade the drug. The