A simple analytical method to quality control of Passiflora incarnata L. extracts using HPLC-UV


APrograma de Pós-graduação em Ciências Farmacêuticas (PPGCF) – UFRGS
BFaculdade de Farmácia - UFRGS

Palavras Chave: Passiflora, flavonoid, method, validation, HPLC

Introduction: The Passiflora incarnata L. is considered an official plant by ANVISA and many official codes such European Pharmacopoeia (2002) and French Pharmacopoeia (2007). However, the last edition of Brazilian Pharmacopoeia (2010) does not support information about this species. The P. incarnata L. contains a special C-glycosil flavonoid, vitexin which is considered a valid indicator of authenticity and is supposed to be responsible for the therapeutic action. In this study we are dedicated to develop HPLC methods for identification and quantification of the vitexin in Passiflora incarnata L. extracts; also to evaluate the commercial extracts available in Porto Alegre and metropolitan area.

Experimental Section: The HPLC method was performed on a Shimadzu system equipped with a photodiode array detector and an injection valve with 20µL loop. The separation was carried out with a C18 RP column (150mm x 4.6mm). Method validation investigated parameters such as specificity, linearity, accuracy, robustness, limit of detection and quantification.

Results/ Discussion: A method by HPLC for P. incarnata L. extracts identification and quantification was developed and applied to assay five commercials Passiflora herbal drugs. The HPLC method was successfully validated being linear (r: 0.9988), specific (peak purity index: 0.9999), accurate (recovery: 99 - 103%), precise (repeatability-RSD: < 2.1% and intermediate precision-RSD: < 5%) and robustness with RSD: < 5% for change parameters such as – flow, equipment and operator. The analysis of commercials herbal drugs showed vitexin concentrations of 0.008 to 0.078%; moreover, about 30% of the extracts of P. incarnata L. did not contain vitexin.

Conclusion: A simple HPLC method was successfully development, validated and applied for identification and quantification of the vitexin flavonoid in P. incarnata L. extracts. This study demonstrated that the proposed method is selective, reproducible and therefore suitable to quality control of P. incarnata L. extracts.

Financial: CNPQ, CAPES