Tolosa E et al., J Pharma Care Health Sys 2017, 4:2(Suppl)
http://dx.doi.org/10.4172/2376-0419-C1-020

Quantitative analysis of quercetin present in ethanolic leaf extract of *Blumea balsamifera* L. DC using TLC-bioautography and HPLC-PDA

Tolosa E, Go Jon, Kamantigue E, Versoza D and Toralba J
University of the Philippines Manila, Philippines

The objective of the study is to measure the amount of quercetin present in DCM fraction of ethanolic extract of *Blumea balsamifera* L. leaves using TLC-bioautography and HPLC-PDA. Furthermore, the study compared TLC-bioautography versus HPLC in quantification of quercetin in the plant sample. Powdered *B. balsamifera* leaves were macerated with 95% ethanol and the filtrate was subjected to liquid-liquid partitioning. The extract was partitioned with an equal amount of n-hexane. Recovered ethanol partition was subjected to rotary evaporation and remaining aqueous fraction was successively partitioned with dichloromethane, chloroform and ethyl acetate. The residue obtained from n-hexane, dichloromethane, chloroform, ethyl acetate and water were screened using Bate-Smith and Metcalf method and Wilstater "cyanidin" test. All fractions tested were negative for Bate-Smith and Metcalf method. Dichloromethane, chloroform and ethyl acetate fractions showed positive results for Wilstate test indicating possible presence of gamma-benzopyrone. Dichloromethane fraction was used for column chromatography because in comparison with ethyl acetate and chloroform fraction, the intensity of color was best. The residue obtained from dichloromethane was purified by column chromatography. Each fraction was spotted in the TLC plate and sprayed with DPPH. All fractions that tested positive for DPPH test were pooled. Thin Layer Chromatography method was developed to carry out the bioautography process utilizing the anti-oxidant property of quercetin. Using the developed method, the amount of quercetin in the DCM fraction was determined. High performance liquid chromatography method was developed to measure the amount of quercetin present in the pooled fractions. The final concentration of quercetin in the pooled fractions for HPLC is 2.022 mg/mL and TLC-bioautography method is 2.25 mg/mL. Comparison of two methods: Mean: 0.356 mg/mL, variance: 0.000722 mg^2/mL^2, standard deviation: 0.02687 mg/mL, % relative standard deviation: 7.55%, and the standard error: 0.019 mg/mL. The quantitation of quercetin using TLC-bioautography and HPLC is significantly similar.

Biography

Tolosa E is currently a University researcher working with the projects of the Institute of Herbal Medicine under the National Institutes of Health, University of the Philippines Manila. His specializations are preformulation, formulation and quality control of herbal medicines that is being used for *in vitro* and *in vivo* testing and for use in clinical trials in the Philippines. His current study is on NMR-based plant metabolomics fingerprinting of *Blumea balsamifera* L. DC leaves. His research focused on standardizing and creating a systematic approach on herbal medicine formulation and quality control to strengthen its status in the international scientific community.

esseltolosa@yahoo.com

Notes: