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ISOLATION AND DETERMINATION CARPAINE ALKALOID IN PAPAYA (CARICA PAPAYA L.) LEAF EXTRACT BY THIN-LAYER CHROMATOGRAPHY SCANNER

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Abstract

Objective: This research was conducted to isolate the alkaloid carpaine by chromatography method and to determine it quantitatively by Thin Layer Chromatography Scanner.

Methods: Dried leaves were macerated with ethanol 70% and fractionated with dichloromethane. Isolation of carpaine alkaloid from the dichloromethane fraction was carried out by column chromatography and preparative thin-layer chromatography according to the R_f value in Thin Layer Chromatography (TLC) after exposure by Dragendorff reagent.

Results: The content of carpaine alkaloid was 7.5 mg with R_f 0.58 and dichloromethane: methanol (9.2:0.8) as eluent. Validation showed the linearity (R²) 0.9988, the limit of detection (LOD) was 0.05 ppm, the Limit of Quantification (LOQ) was 0.19 ppm, the recovery from 98.93-102.43%, and the % coefficient of variation was 0.16%.

Conclusion: Carpaine alkaloid in papaya leaf extract was 10.52%.

Author Keywords

Carica papaya, Papaya leaf, Carpaine alkaloid, Validation method, TLC scanner

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