

ABSTRACT**Validation of TLC-Densitometry Method for the Determination of Glucosamine in Dietary Supplements****Latifah Kartika Dewi**

A quantitative densitometric thin-layer chromatographic (TLC) method was developed for determination of glucosamine in dietary supplements. This study has purpose to obtain a simple validated method of glucosamine in tablets's analysis. Glucosamine spotted on silica gel 60 F 254 using a mixture 1-butanol : glacial acetic acid : water (3:1:1) as mobile phase with ninhydrin as visualization reagents. The analyte spots were quantified using densitometry method at $\lambda = 488$ nm. The respond was to be linear at the range of glucosamine concentration between 1000-3000 ppm ($y = 3.9604x + 36894.54$; $r = 0.9997$). The result showed that the detection limit of glucosamine was 1.05 ppm and quantification limit was 3.49 ppm. The average percentage recovery for accuracy was 99.70 % and precision of the method was 1.19 %. This method was used for determination of glucosamine in dietary supplement. The average percentage labelled amount of glucosamine in tablet was 101.03 %. This is exceed percentage labelled amount claimed, (not less than 90 % and not more than 120 %, USP Dietary Supplement Compendium 2015). The proposed method is simple, rapid, accurate and also consumed less reagent. Therefore this method is suitable for routine analysis of this drug in raw materials and formulations.

Keywords : TLC-Densitometry, Glucosamine, Validation Method, Dietary Supplements