

Determination Of Mefenamic Acid Content In Several Brands Of Medicinal Tablets Using High Performance Liquid Chromatography

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Structured Abstract

Background: Quality control of mefenamic acid in tablet form is very important as the drug can be bought over the counter and concerning increase of counterfeit drug cases in Malaysia. Determination of mefenamic acid content in the medicine is one of the criteria to assess quality of the drug. In this work, the mefenamic acid content in three common brands of medicinal tablet available in Malaysian market were measured using high performance liquid chromatography (HPLC). The accuracy of the HPLC to determine the mefenamic acid content was evaluated by percent recovery and comparison with the value claims by manufacturer.

Methods: For each brand, ten tablets were removed from their blister pack. The weight of the ten tablets for each brand were weighed and recorded prior grind into homogenous powder. About 0.1 g of the powder transferred to a 50 mL volumetric flask consists of 25 mL methanol. The sample solution ultrasonicate for about 30 minutes. The solution was cooled, and the volume was mark up to the final volume to obtain 1 mg/mL using methanol. Then, gravitational filtration of the sample solution prior measured in triplicates by the HPLC. Standard solution between 5 and 50 mg/L were also prepared and measured in triplicates by the HPLC.

Results: The mefenamic acid signal in standard and all sample solutions appeared at a retention time about 6 min. The mefenamic acid content from all brands (Ponstan, Fenagesic and Dyefenamic) were accurately quantified by the HPLC with the % bias < 10. The % bias defines as the difference between measured value and the value claims by manufacturer. The accuracy of the measurement was also supported by acceptable range of percent recovery (84 - 99.3 %).

Conclusion: In conclusion, the mefenamic acid content in several brands of medicinal tablet was accurately quantified, as the value close to the value claimed by manufacturer and with acceptable range of percent recovery. Finding from this work suggests that the medicinal tablet safe to consume and unlikely apart of counterfeit drug

Keywords: mefenamic acid, HPLC, medicinal tablet

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