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COMPARISION OF FOUR SAPONIN EXTRACTION METHODS FROM LEAVES OF *ACHILEA WILHELMSII* C. KOCH

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Saponins are one of a mixture group belong to plant secondary metabolites that they are often classified as active components in medicinal plants. This chemical compounds have properties such as: anti-microbial, anti-parasitic, anti-inflammatory, anti-allergic, hypoglycaemic and anti-cancer. Aim of this study was optimizing of the procedure for extraction and isolation of saponins from leaf of *Achillea wilhelmsii* C. Koch (Asteraceae). Dried leaf Powdered and extracted with ethanol 70% using a method including three stages: microwave (1 min), ultra sound (30 min) and maceration (24 h). Saponins were isolated from crud extract by four different solvent systems and then saponin content of the each fraction were assayed[1- 3].The results demonstrated that use of different solvents such as ethyl acetate, diethyl ether, petroleum ether and *n*-butanol had significant effects on the saponin content levels isolated from crude extract. The highest saponin content was obtained by ethyl acetate.But, followed test by separation of the saponin solutions on TLC plates, better result had obtained by purification of the saponins via both diethyl ether + *n*-butanol fractions.TLC was performed on silica gel $60HF_{254}$ with three different mobile phases. Our results demonstrated that segregation of the saponin bands on TLC plates was the best by usage of solvent system including n-butanol, ethanol and ammonia. We observed 15 bands for this species on the chromatogram profiles as pink, purple, green, azure, blue and violet bands with Rf: 0.2-0.9. Also, 4 yellow bands were observed.

References

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