

ABSTRACT

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Title of diploma thesis: HPLC in quality control of food supplements based on curcumin extracts

In this diploma thesis, a new HPLC method for the simultaneous determination of active components in food supplements, piperine, curcumin, demethoxycurcumin and bisdemethoxycurcumin was developed and validated.

The method was used to determine the level of the relevant analytes in the selected food supplements, namely Curcumin – piperine plus Vieste, Curcumin-piperine complex Natural Medicaments, Turmeric: piperine Setaria, Cur-Cum Astina, Curcumin Liftea, Curcumin Advance a Curcumin turmeric.

Finally, the obtained results were compared with the declared extract content and evaluated as a percentage of quality of the food supplement.

An Ascentis® Express RP-Amide 150 x 4,6 mm, 2,7 µm particle size analytical column with Ascentis® RP-Amide 5 x 4,6 mm, 2,7 µm particle size precolumn was used for analysis. A gradient elution with analysis time of 12.5 minutes and flow rate of mobile phase 1.0 ml/min was used. As the mobile phase a mixture of acetonitrile 100% and 0.1% phosphoric acid was chosen. The detection was performed with a DAD detector at wavelengths of 280, 340 and 420 nm.

Keywords: HPLC, piperine, curcumin, demetoxycurcumin, bisdemetoxycurcumin, food supplements