ABSTRACT

Charles University
Faculty of Pharmacy in Hradec Králové
Department of Biophysics and Physical Chemistry
Candidate: Marcela Hollá
Supervisor: Ing. Martin Drastík, Ph.D.

Title of Diploma Thesis: Determination of steviol glycosides by HPLC

A new HPLC method was developed and validated for simultaneous detemination of major steviol glycosides stevioside and rebaudioside A in food supplements. Separation took place in hydrophilic interaction chromatography mode on column with core-shell particles. The method was aplicated on analysis of steviol glycosides in products Valosun, SlaDIA, Solia and extract from dried stevia leaves. Isocratic separation was performed using Kinetex 2,6u HILIC 100A, (100 x 2,1 mm; 2,6 μm), Phenomenex analytical column with mobile phase consisted of acetonitrile/0,05 M ammonium formate adjusted with formic acid to pH=3 in ratio 90:10, with flow rate 0,7 ml/min, column temperature set at 30 °C, pressure 19,8 MPa, UV detection at 203 nm and injection volume 1 μl. We compared the results of the analyzes with content of stevioside glycosides declared by the manufacturer. The new developed method allows rapid analysis of food supplements and plant extract containig steviol glycosides.

Key words: steviol glycosides, stevioside, rebaudioside A, *Stevia rebaudiana* Bertoni, high performance liquid chromatography, hydrophilic interaction chromatography, core-shell particles.