

Abstract

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Title of the diploma thesis: HPLC in quality control of food supplements containing gingerols and curcumins

In this diploma thesis, a new HPLC method for determination of 6-, 8- and 10-gingerol, 6-shogaol, curcumin, demethoxycurcumin, bisdemethoxycurcumin, and piperine was developed and validated. The developed method was used for the analysis of food supplements: Kurkumin – piperin plus (+ zázvor) from VIESTE, Bio tumeric + ginger from VANAVITA, Ginger root extract from BioMedical, Shogaol zázvor from EPIGEMIC®, Ginger root extract from SWANSON®, and Ginger root (*Zingiber officinale*) from SOLGAR®. Just as a matter of interest, this method was applied for the selected tea blends containing ginger and/ or tumeric: Dilmah Orange & Ginger (flavoured ceylon black tea), Loyd Brusinky & Zázvor, Teekanne Dýchací cesty a krk se zázvorem, Pickwick Nos a krk se zázvorem, Tesco Ginger & Lemon, Teekanne Ginger Curcuma. For the analysis YMC-Triart C18 ExRS (150 x 4.6 mm; 3 µm) analytical column was used. Separation was carried out by gradient elution with mobile phases A: acetonitrile, B: ultrapure water at flow rate 1 ml/min. Detection was performed by diode-array detector (DAD) at wavelengths 224, 281, 340, and 420 nm. The column space temperature was set at 30 °C.

Keywords: HPLC, 6-, 8-, 10-gingerol, 6-shogaol, curcumin, demethoxycurcumin, bisdemethoxycurcumin, piperine, ginger, curcuma