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APSTRAKTI / ABSTRACTS

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taminosis from the intake of certain medicines, while the minerals are used in therapy when its deficiency is evident.

Keywords: vitamins, minerals, medicines marketing

T 3.9 ODREĐIVANJE ALFA LIPOINSKE KISELINE U DIJETETSKIM SUPLEMENTIMA I DOZIRANIM OBLICIMA

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Alfa lipoinška (tioktinska) kiselina se koristi u lečenju dijabetičke polineuropatije. Zbog svojih antioksidativnih svojstava, prisutna je u brojnim dijetetskim suplementima sama, kao i u kombinaciji sa aminokiselinama, L-karnitinom i drugim jedinjenjima. Dostupni podaci za kvantitativno određivanje alfa lipoinške kiseline su malobrojni. Usled toga, cilj našeg rada je bio da se razvije i validira TLC metoda za određivanje alfa lipoinške kiseline posle derivatizacije sa paladijum (II) hloridom.

Za razdvajanje alfa lipoinške kiseline i njenog redukovanog oblika korišćene su RPTLC ploče veličine 20x10 cm, uz mobilnu fazu propanol-2 : metanol : acetone : voda: sirćetna kiselina u odnosu 6:4:2:8:0.2 v/v/v/v/v. Nakon razvijanja, hromatografske ploče su potapane u rastvor paladijum (II) hlorida, a žute zone formiranog kompleksa su merene na 375 nm. Retencionna vremena alfa lipoinške kiseline i njene redukovane forme su 45 i 32 mm. Zavisnost površine signala i količine nanete supstance ispitana je korišćenjem linearne regresione jednačine za opseg koncentracija od 1 – 3 µg i polinomalne regresione jednačine drugog stepena za koncentracioni opseg 0.5 – 5 µg. Za datu metodu dobijene vrednosti koeficijenta korelacije ($r=0.999$), limit kvantifikacije (0.3 µg), rikaveri (98,5 – 105,2%) i preciznost (0,9 – 2,9%) su zadovoljavajući.

Validirana hromatografska metoda je primenjena za određivanje alfa lipoinške kiseline u doziranim oblicima i dijetetskim suplementima. Nađeni sadržaj lipoinške kiseline (98,5 – 102,0%) u doziranim oblicima je u propisanim granicama, dok je u dijetetskim suplementima varirao u rasponu od 50 do 185%.

T 3.9 DETERMINATION OF ALPHA LIPOIC ACID IN DIETARY SUPPLEMENT PREPARATIONS AND IN DRUG FORMULATIONS

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Alpha lipoic (thioctic) acid is a drug used for the treatment of diabetic polyneuropathy. Due to its antioxidant properties alpha lipoic acid is nowadays widely used in dietary supplement preparation alone and in combination with amino acids, L- carnitine and other compounds. There are not so many data available on the quantitative determination of alpha lipoic acid in dietary supplements. Therefore the aim of these investigations was to develop and validated TLC method for determination of alpha lipoic acid after derivatization by Palladium (II) chloride reagent.

The separation of alpha lipoic acid was performed on RPTLC plates (20 x 10 cm) using propanol-2 : methanol : acetone : water : acetic acid (6:4:2:8:0.2 v/v/v/v/v) as mobile phase. The plates were immersed in solution of Palladium (II) chloride reagents and yellow spots were scanned at 375 nm. The retention times of alpha lipoic acid and its reduced form were 45 and 32 mm, respectively. Relationship of the peak areas and the amount of the substance applied was evaluated using the linear (1 – 3 µg/spot) and second degree polynomial regression function (0.5 – 5 µg/spot). For the proposed procedure coefficient of correlation ($r=0.999$), limit of quantification (0.3 µg/spot), recovery (98,5 – 105,2%) and precision (0,9 – 2,9%) were found to be satisfactory.

The developed method was applied for determination of alpha lipoic acid in drugs dosage formulations and in dietary supplement preparation. The content of lipoic acid were found to be 98, 5 – 102.0% in drug dosage formulations and 50- 185, 0% in some of dietary supplement preparations.

T 3.10 SADRŽAJ HROMA I GVOŽĐA U DIJETETSKIM SUPLEMENTIMA

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Hrom i gvožđe su esencijelni mikroelementi. Njihova uloga u organizmu je višestruka.

Fiziološko - biohemijska uloga hroma povezana je sa faktorom tolerancije glukoze u okviru kog ostvaruje poboljšanje perifernih aktivnosti hormona insulina, olakšavajući mu vezivanje za receptore. Aktivni hemijski oblik je Cr(III).

Uloga gvožđa u organizmu vezana je za transport kiseonika od pluća do tkiva i za proces eritropoeze. Preporučeni dnevni unos (RDA) gvožđa za muškarce je 10 mg i 15