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INTERNATIONAL CONGRESS ON NATURAL, HEALTH SCIENCES AND TECHNOLOGY

BOOK OF ABSTRACTS

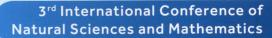


6th International Balkan Conference in Sport Sciences

5th International Scientific Conference of Applied Sciences



4th International Scientific Conference of the Faculty of Medical Sciences







1st International Conference of Food Technology and Nutrition



International Congress on Natural, Health Sciences and Technology

Book of Abstracts

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Contents

6th International Balkan Conference in Sport Sciences 5

THE EFFECTS OF THE ANGIOTENSIN CONVERTING ENZYME (ACE) GENOTYPE ON 3000 M RUNNING (VO₂MAX) PERFORMANCE & BODY COMPOSITION IN TURKISH ARMY SOLDIERS: LONGITUDINAL STUDY

Mesut CERIT......5

PHYSICAL ACTIVITY AND HEALTH

Ibrahim CAN, Serdar BAYRAKDAROGLU, Harun DURAN..... 57

THE LINK BETWEEN JUMPING PERFORMANCE AND IZOMETRIC STRENGTH IN YOUNG ATHLETES IN BASKETBALL

Andi SPAHI, Afrim BILALI, Juel JARANI......59

COMPARISON OF HEART RATE DURING STEP TEST (VO2MAX) BETWEEN DIFFERENT COMPETING CATEGORIES OF BODYBUILDING AND FITNESS ATHLETES PARTICIPATING IN THE NATIONAL CHAMPIONSHIP

Rando KUKELI, Andi SPAHI......60

DEVELOPMENT AND VALIDATION OF A LIQUID CHROMATOGRAPHY COUPLED TANDEM MASS SPECTROMETRY (LC-MS/MS) METHOD TO DETERMINATION TYLOSIN AND LINCOMYCIN ANTIBIOTIC RESIDUES IN MILK

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Abstract

A rapid and sensitive liquid chromatography tandem mass spectrometry (LC–MS/MS) method has been developed and validated for the simultaneous identification, confirmation and quantitation of tylosin and lincomycin residues in milk. The method was validated in accordance with Commission Decision 2002/657/EC.

McIlvaine buffer was used to extract residues from milk, and further SPE cleanup was performed using an Oasis HLB cartridges. Chromatographic separation was achieved using a C18 column (50 x

2.1 mm, 1.7 μ m) with mobile phase A: 0.1% formic acid in water and mobile phase B: 0.1% formic acid in acetonitrile.

The linear regression analysis showed good correlation with R^2 from 0.9911 to 0.9947. The recoveries of target compounds were 84.5% for lincomycin and 92.70% for tylosin. The decision limits (CCa) for lincomycin was 15.30 µg/l and for tylosin 13.50 µg/l. Detection capability (CC β) was 17.60 µg/l and 16.85 µg/l, respectively.

From the validation study results can conclude that the method is suitable to be applied for routine analysis of the residues of lincomycin and tylosin in milk.

Keywords: lincomycin, tylosin, milk, validation, LC-MS/MS method.