

UNIVERSITY "Ss. CYRIL AND METHODIUS" IN SKOPJE
FACULTY OF VETERINARY MEDICINE - SKOPJE

PROCEEDINGS

DAYS OF
VETERINARY MEDICINE 2013



The 4th International Scientific Meeting

06-08 September 2013
Struga, Republic of Macedonia

**UNIVERSITY "Ss. CYRIL AND METHODIUS" IN SKOPJE
FACULTY OF VETERINARY MEDICINE - SKOPJE**



PROCEEDINGS

DAYS OF VETERINARY MEDICINE 2013

4th International Scientific Meeting

**06-08 September 2013
Struga, Republic of Macedonia**

EXECUTIVE COMMITTEES OF DAYS OF VETERINARY MEDICINE 2013

Local Organizing Committee

Prof. Dr. Dine Mitrov, Prof. Dr. Velimir Stojkovski, Prof. Dr. Zehra Hajrulai-Musliu, Prof. Dr. Slavco Mrenoski, Prof. Dr. Vlatko Ilijeski, Prof. Dr. Vladimir Petkov, Prof. Dr. Plamen Trojcanec, Prof. Dr. Romel Velev, Prof. Dr. Igor Ulchar, Prof. Dr. Pavle Sekulovski, Prof. Dr. Toni Dovenski, Ass. Prof. Dr. Florina P. Percinic, Ass. Prof. Dr. Lazo Pendovski, Ass. Prof. Dr. Dean Jankuloski, Ass. M-r Branko Atanasov, Ass. M-r Irena Celeska, Ass. Sandra Mojsova

International Organizing Committee

Prof. Dr. Marjan Kosec
University of Ljubljana, Slovenia
Prof. Dr. Jelka Zabavnik-Piano
University of Ljubljana, Slovenia
Prof. Dr. Dinko Dinev
University of Stara Zagora, Bulgaria
Prof. Dr. Aleksandar Pavlov
University of Stara Zagora, Bulgaria
Prof. Dr. Tomislav Dobranic
University of Zagreb, Croatia
Prof. Dr. Alen Slavica
University of Zagreb, Croatia
Prof. Dr. Andrej Kirbis
University of Ljubljana, Slovenia
Prof. Dr. Geert Opsomer
University of Gent, Belgium
Prof. Dr. Robert Farkas
University of Budapest, Hungary

Prof. Dr. Almedina Zuko
University of Sarajevo, Bosnia and Herzegovina
Prof. Dr. Mehmed Muminovic
University of Sarajevo, Bosnia and Herzegovina
Prof. Dr. Danijela Kirovski
University of Belgrade, Serbia
Prof. Dr. Miodrag Lazarevic
University of Belgrade, Serbia
Prof. Dr. Ivanco Naletoski
IAEA, Austria
Prof. Dr. Giovanni M. Lacalandra
University of Bari, Italy
Prof. Dr. Kiro R. Petrovski
University of Adelaide, Australia
Prof. Dr. Mustafa Atasever
University of Istanbul, Turkey
Prof. Dr. Halil Gunes
University of Istanbul, Turkey

Secretariat

M-r Katerina Blagoevska, M-r Nikola Adamov, M-r Marija Ratkova,
M-r Kiril Krstevski, M-r Ksenija Ilievska, M-r Ljupco Angelovski

Editors

Prof. Dr. Dine Mitrov
Ass. Prof. Dr. Lazo Pendovski
Ass. Prof. Dr. Florina P. Percinic

Published by:

Faculty of Veterinary Medicine – Skopje, Lazar Pop Trajkov 5/7, 1000 Skopje
Tel: ++389 2 3240 700 Fax: ++ 389 2 3114 619
www.fvm.ukim.edu.mk

CIP - Каталогизација во публикација
Национална и универзитетска библиотека "Св. Климент Охридски", Скопје
636.09(062)
INTERNATIONAL scientific meeting (4 ; 2013 ; Skopje)
Days of veterinary medicine 2013 : proceedings / 4th International
scientific meeting, 6-8 September, 2013 Republic of Macedonia ;
[editors Dine Mitrov, Lazo Pendovski, Florina Percinic]. - Skopje :
Faculty of Veterinary medicine, 2013. - 152 стр. : 21 см
Регистар
ISBN 978-9989-774-25-6
a) Ветеринарна медицина - Собири
COBISS.MK-ID 94320394

P21 VALIDATION OF ELISA SCREENING METHOD AND DETECTION OF BOLDENONE IN CATTLE URINE

Angelova Pande Aleksandra¹, Hajrulai-Musliu Zehra², Uzunov Risto²

¹*Student of Faculty of Veterinary medicine, Skopje, Republic of Macedonia*

²*Food Institute, Faculty of Veterinary Medicine,
University Ss "Cyril and Methodius", Skopje, R. Macedonia*

ABSTRACT

Introduction

17 β Boldenone (androsta-1,4-dien-17-ol-3-one) is a synthetic androgenic steroid hormone and synthetic derivatives of the male hormone testosterone. The anabolic effects are considered to be those promoting erythropoiesis, protein synthesis and muscle growth. Because of this effects boldenone are used to improve the growth and food conversion of cattle and therefore can be abused for more efficient meat production. Boldenone, like the other anabolics, are banned substances in the European Union but might still be illegally applied as growth promoters. The aim of this study was validation of screening ELISA method and detection of boldenone in cattle urine.

Materials and Methods

For detection of boldenone we used ELISA kit for boldenon from Tecna. For our study 34 urine samples from cattle were obtained and they were kept frozen until use. The ELISA method for boldenone was previously validated and for determination of limit of detection we used 20 blank bovine urine samples. Detection capabilities (CC β) was evaluated by analyzing 20 spiked bovine urine on 1/2 of MRPL level and recovery was determined at three levels by spiking on blank urine on 0,5; 1 and 1,5 ng/ml.

Results

The results of this study showed that the mean recovery for detection of boldenon with ELISA method was 84,32%. The limit of detection was 0,27 ng/ml and detection capability was 0,67 ng/ml. In the analyzed 34 cattle urine samples the concentration of boldenone was less than detection capability.

Conclusion

In our study screening ELISA method was used for monitoring of boldenone, anabolic steroid, in cattle urine. The method was validated and the detection capability was satisfactory. Also the recovery of the method was good and boldenon wasn't detected in cattle urine. Due to good recovery and satisfactory CC β , our method is applicable in laboratories involved in official routine analysis for monitoring the illegal use of anabolic steroids.

Key words: boldenone, ELISA, validation, cattle urine, anabolic steroid