

Determination of Zeranol by C18 RP-HPLC

Abstract

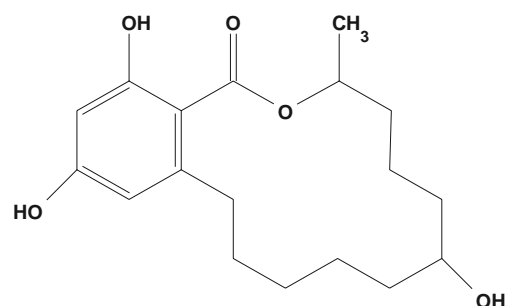
A method is described for the determination of the anabolic agent, Zeranol, by the C18 reversed phase HPLC with UV detection. The method is straightforward, with sensitivity in the sub-ppm range. Retention time for Zeranol is approximately 14 minutes.

Zeranol (zearalanol) has been adopted as a growth stimulant and also employed to reduce stress in cattle.¹ The radioactive study, using tritium-labelled zeranol pellets in cattle indicated that while the majority of zeranol was found in faeces (45%) and urine (10%), 10% remained in the site of implant.² The use of this chemical agent therefore has the potential to leave residues in food-producing animal tissues and organs, and methods for its analysis are required.

HPLC offers high selectivity and sensitivity. In addition, it also provides the instrumental flexibility to allow a standard LC procedure to be readily modified to suit the requirements of specific assays. This, when coupled with the appropriate sample preparation procedures, can deliver rapid methods for the analysis of zeranol in urine³ and tissues.

Keywords:

Zeranol, Zearalonaol, Anabolic, Growth Stimulant, Veterinary Medicine, RP-HPLC



Zeranol

Conditions

Column: Sperisorb S5 ODS2, 250 x 4.6 mm ID
 Mobile Phase: Water/Methanol (40:60) (Helium Sparging)
 Flow Rate: 1.0 ml/min
 Temperature: 30°C
 Detection: UV at 265 nm
 Injection Vol.: 20 µl
 Standard Prep.: 1.0 Mg of Zeranol dissolved in 10 ml of methanol

References

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2. G.D. Sharp and I.A. Dyer, J. Anim. Sci., 34, (1972), 176.
3. H.L. Kim, A. Ray and R.D. Stipanovic, J. Agric. Food Chem., 34, (1985), 312.

'...a standard LC procedure when coupled with the appropriate sample preparation procedures can deliver rapid methods for the analysis of zeranol in urine and tissues...'



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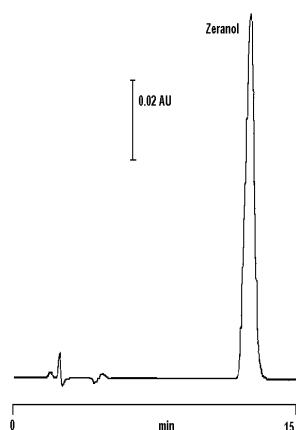


Figure 1 Zeranol Standard

GBC HPLC Instrumentation

LC1110 Dual Piston HPLC Pump
LC1200 Variable Wavelength UV/Vis
Detector
LC1650 Advanced Autosampler
WinChrom Chromatography Data
Management System
LC1440 System Organiser
GBC Column Heater

