

Dexamethasone in Pork

Waters Corporation



This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief describes method to determine dexamethasone in pork.

Introduction

The European Union (EU) considers dexamethasone residues a high priority in food animals as they are synergistic with illegal growth promoters, such as beta-agonists or anabolic steroids.

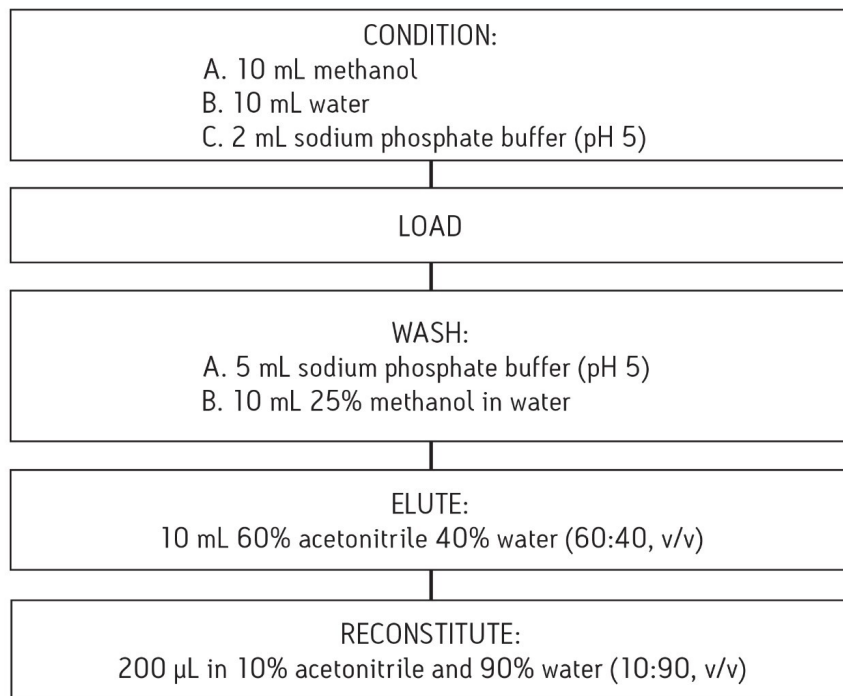
Experimental

Pretreatment

1. Add 5 g of the ground pork into 30 mL of 95:5 acetonitrile:water (v/v).
2. Shake for 20 minutes, homogenize, and shake for 10 minutes.
3. Centrifuge for 5 minutes.
4. Repeat extraction.
5. Combined both extractions and load onto Sep-Pak Vac 3 cc (500 mg), Florisil Cartridges and elute with 30 mL of 95% acetonitrile and bring up to 100 mL with acetonitrile.
6. Take out 20 mL of extract add 10 mL of hexane. Shake for 3 minutes and leave to stand.
7. Take acetonitrile layer and evaporate to dryness.
8. Reconstitute with 4 mL of 0.2 M sodium phosphate buffer (pH 5) to a final volume of 6 mL with water.

SPE Procedure

Sep-Pak Plus C₁₈ 360 mg



LC Conditions

System:	ACQUITY UPLC
Column:	ACQUITY UPLC BEH C ₁₈ , 1.7 µm, 2.1 x 100 mm
Flow rate:	400 µL/min
Mobile phase A:	0.1% formic acid in water
Mobile phase B:	0.1% formic acid in acetonitrile

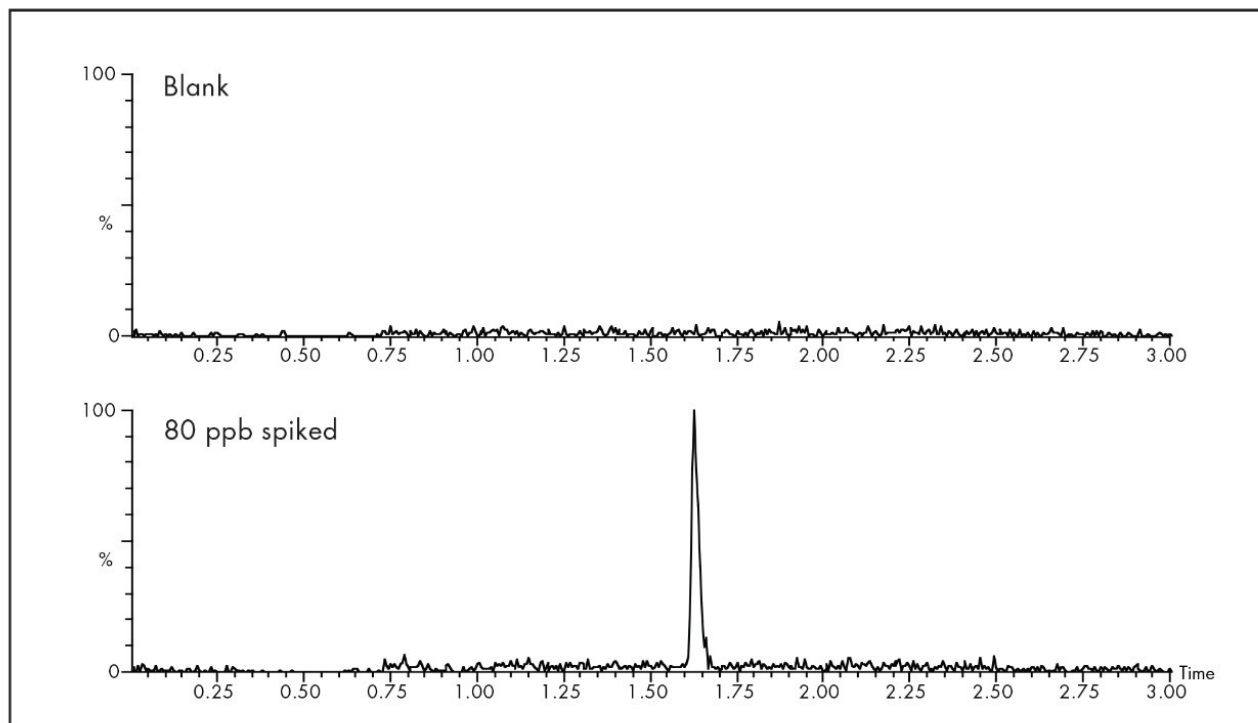
Gradient:

Time (min)	A%	B%
0.00	70	30
3.00	10	90
3.10	70	30
4.00	70	30

MS Conditions

MS System:	Waters Quattro Premier
Ionization mode:	Positive electrospray (ESI ⁺)
	Multiple reaction monitoring

Results and Discussion



Representative chromatogram for 50 ppb dexamethasone spiked in pork muscle.

Compound Name: Dexamethasone 393→393	RT	Area
50 ppb-spiked	1.64	333.30
50 ppb-spiked	1.63	322.59
50 ppb-spiked	1.63	548.12
50 ppb-spiked	1.63	506.48
50 ppb-spiked	1.63	386.79
RSD (%)	24.43	
Recovery (%)	90.09	

Compound Name: Dexamethasone 393→373	RT	Area
50 ppb-spiked	1.64	270.38
50 ppb-spiked	1.64	250.18
50 ppb-spiked	1.63	503.14
50 ppb-spiked	1.63	404.46
50 ppb-spiked	1.63	327.81
RSD (%)	29.59	
Recovery (%)	89.00	

Recovery results for 50 ppb dexamethasone spiked in pork muscle.

Featured Products

· [ACQUITY UPLC System <https://www.waters.com/514207>](https://www.waters.com/514207)

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