Waters™

アプリケーションノート

Spiramycin in Pork

Waters Corporation



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

Abstract

This method can be used to monitor Spiramycin, a macrolide antibiotic, in pork.

Introduction

World health organizations are concerned about the antibiotics and antibacterials levels in food. This method can be used to monitor Spiramycin, a macrolide antibiotic, in pork.

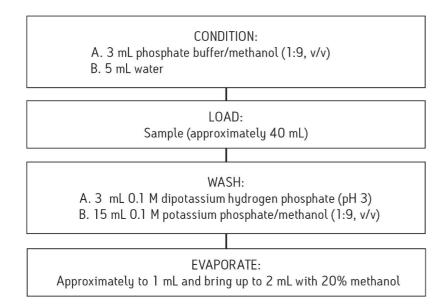
Experimental

Pretreatment

- 1. Weigh 5 g of sample into 25 mL of water. Homogenize.
- 2. Centrifuge at 3000 rpm for 10 minutes.
- 3. Collect supernatant.
- 4. Re-extract pellet with 15 mL 1.2% metaphosphoric acid/ methanol (50:50, v/v).
- 5. Vortex.
- 6. Centrifuge at 3000 rpm for 10 minutes. Collect supernatant.
- 7. Combine both supernatants.
- 8. Filter sample using glass fiber filter.

SPE Procedure

Oasis® MCX 6 cc/150 mg



SPE Buffer:

Dissolve 8.7 g dipotassium hydrogen phosphate in 1 L of deionized water, adjust to pH 3 with phosphoric acid.

LC Conditions

System:	ACQUITY UPLC
Column:	ACQUITY UPLC BEH C $_{18}$, 1.7 μ m, 2.1 \times 50 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	90	10
2	60	40
2.1	90	10
3	90	10

MS Conditions

MS System: Waters Quattro Premier XE

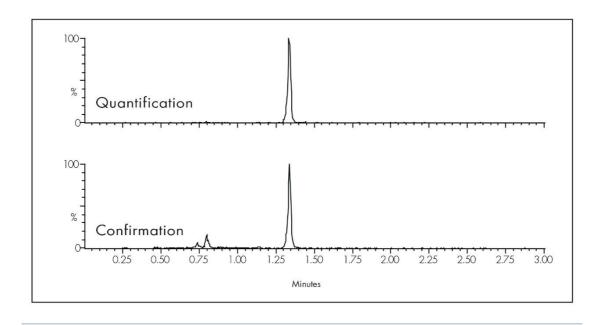
MRM transitions: 1: 422.50→101.00

2: 422.50→174.10

Ionization mode: Positive electrospray (ESI⁺)

Multiple reaction monitoring

Results and Discussion



Representative chromatogram 100 ppb spiramycin spiked sample in pork muscle.

Compound Name: Spiramycin I 174.1	RT	Area
100 ppb spiked 1	1.34	902.79
100 ppb spiked 2	1.34	911.36
100 ppb spiked 3	1.34	1041.24
100 ppb spiked 4	1.34	1030.33
100 ppb spiked 5	1.34	1101.27
RSD (%)		7.97
Recovery (%)		73.26

Compound Name: Spiramycin I _101	RT	Area
100 ppb spiked 1	1.34	1063.65
100 ppb spiked 2	1.34	1267.22
100 ppb spiked 3	1.34	1368.84
100 ppb spiked 4	1.34	1227.10
100 ppb spiked 5	1.34	1379.40
RSD (%)		5.96
Recovery (%)		74.82

Recovery results for 100 ppb spiramycin spiked sample in pork muscle.

Featured Products

ACQUITY UPLC System https://www.waters.com/514207

720002589, April 2008

© 2021 Waters Corporation. All Rights Reserved.