

Nota de aplicación

## Penicillin G in Pork

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Waters Corporation



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

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### Abstract

This method can be used to monitor Penicillin G in pork.

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## Introduction

World organizations are concerned about the overuse of antibiotics and antibacterials levels in foods due to possible bacteria resistances and health concerns.

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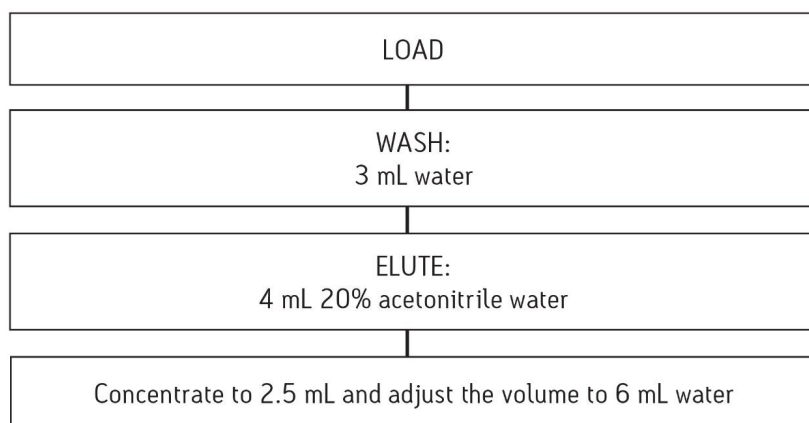
## Experimental

### Pre-treatment

1. Homogenize 3 g of sample with 3 mL of 5% sodium tungstate, 3 mL of 0.17 M sulfuric acid and 30 mL of water.
2. Centrifuge 3100 rpm for 10 minutes.
3. Filter with glass fiber filter.

### SPE Procedure

Sep-Pak® Plus Short C<sub>18</sub>, 360 mg



### LC Conditions

System:

ACQUITY UPLC

Column: ACQUITY UPLC BEH C<sub>18</sub>, 1.7 μm, 2.1 x 50 mm

Flow rate: 600 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 |
| 5          | 10 | 90 |
| 5.5        | 90 | 10 |
| 6          | 90 | 10 |

## MS Conditions

MS System: Waters Quattro Premier XE

Ionization mode: Positive electrospray (ESI+)

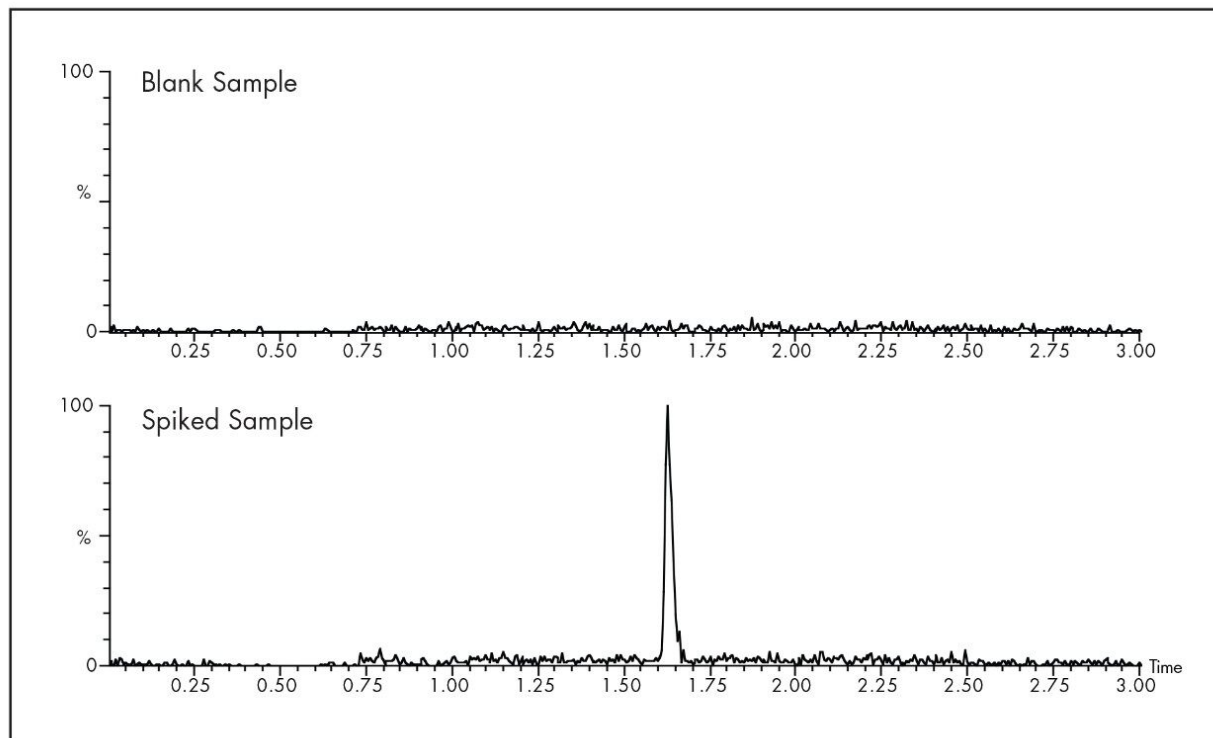
Multiple reaction monitoring

MRM transitions: 1: 335160

2:335176

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## Results and Discussion



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*Representative chromatogram for 5 ppb penicillin spiked in pork muscle.*

| Compound Name: penicillin MRM 335→176 | RT    | Area  |
|---------------------------------------|-------|-------|
| pork blank1                           | 1.83  | 4.50  |
| pork blank2                           | 1.83  | 3.23  |
| 5 ppb spiked pork 1                   | 1.83  | 23.30 |
| 5 ppb spiked pork 2                   | 1.82  | 18.54 |
| 5 ppb spiked pork 3                   | 1.83  | 21.82 |
| 5 ppb spiked pork 4                   | 1.83  | 15.45 |
| 5 ppb spiked pork 5                   | 1.82  | 21.50 |
| RSD (%)                               | 15.56 |       |
| Recovery (%)                          | 58.26 |       |

| Compound Name: penicillin MRM 335→160 | RT    | Area  |
|---------------------------------------|-------|-------|
| pork blank1                           | 1.82  | 5.81  |
| pork blank2                           | 1.83  | 5.02  |
| 5 ppb spiked pork 1                   | 1.83  | 42.97 |
| 5 ppb spiked pork 2                   | 1.83  | 26.59 |
| 5 ppb spiked pork 3                   | 1.83  | 21.89 |
| 5 ppb spiked pork 4                   | 1.82  | 25.22 |
| 5 ppb spiked pork 5                   | 1.83  | 39.03 |
| RSD (%)                               | 29.75 |       |
| Recovery (%)                          | 78.30 |       |

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*Recovery results for 5 ppb penicillin spiked in pork muscle.*

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## Featured Products

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

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