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Fluoroquinolone Antibiotics in Beef Kidney by LC-MS/MS

Waters Corporation

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

Abstract

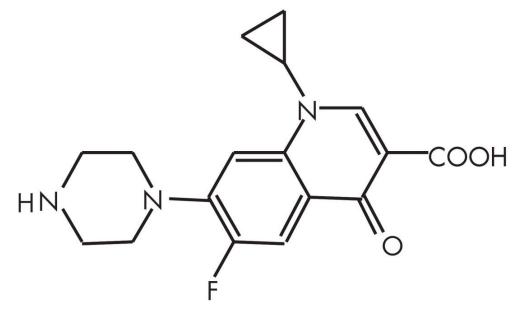
This application brief highlights about the analysis of antibiotic in beef kidney by LC-MS/MS.

Introduction

The compounds analyzed in this study are:

- 1. Flumequin
- 2. Enoxacin
- 3. Norfloxacin
- 4. Sarafloxacin
- 5. Ofloxacin

- 6. Enrofloxacin
- 7. Danofloxacin
- 8. Lomefloxacin
- 9. Ciprofloxacin



CIPROFLOXACIN

ENROFLOXACIN

Experimental

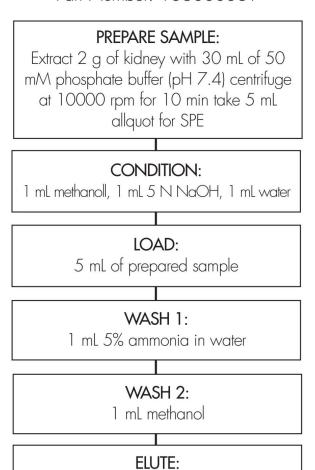
LC Conditions

Column:	Atlantis d C_{18} , 4.6 x 150 mm, 5 μm		
Part number:	1860001344		
Mobile phase A:	0.2% NFPA* in water		
Mobile phase B:	Methanol		
Gradient:	Linear, 40% B to 80% B in 10 minutes		
Flow rate:	0.8 mL/min		
Injection volume:	50 μL		
Temperature:	30 °C		
Instrument:	Alliance 2695 Separations Module		
*NFPA- nonafluoropentanoic acid (NFPA) - C_4F_9 COOH			
MS Conditions			
Instrument:	Quattro		
lon source:	APCI+		
Mode:	Multiple Reaction Monitoring		

Corona: 0.8 V Source temp.: 150 °C Desolvation temp.: 625 °C Cone gas (N_2) : 175 L/Hr Desolvation gas (N_2) : 250 L/Hr Collision gas: Argon

OASIS® MAX EXTRACTION METHOD

Oasis® MAX Extraction Cartridge, 6 cc/150 mg, 30µm Part Number: 186000369



3 mL methanol (4% formic acid)

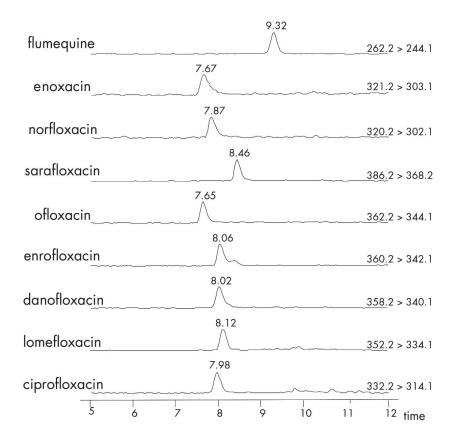
Results and Discussion

Compound	10 μg/kg % Recovery (± % RSD)	50 μg/kg % Recovery (± % RSD)	
flumequin	74(± 9.1)	70(± 17)	
enoxacin	63(± 5.7)	65(± 13)	
norfloxacin	64(± 8.1)	65(± 9.9)	
sarafloxacin	68(± 9.5)	71(± 9.8)	
ofloxacin	72(± 7.0)	80(± 8.6)	
enrofloxacin	73(± 5.3)	76(± 8.9)	
danofloxacin	64(± 8.8)	68(± 8.2)	
lomefloxacin	76(± 6.9)	76(± 7.9)	
ciprofloxacin	70(± 8.7)	62(± 6.1)	

External standard calculation

Results calculated against standards in matrix (n=5)

Compound	MW	(MRM)	Cone (V)	Coll. energy (eV)
flumequin	261	262 ‡ 244	50	20
enoxacin	320	321 ‡ 303	50	20
norfloxacin	319	320 ‡ 302	50	23
sarafloxacin	385	386 ‡ 368	50	25
ofloxacin	361	362 ‡ 344	50	20
enrofloxacin	359	360 ‡ 342	50	20
danofloxacin	357	358 ‡ 340	50	25
Iomefloxacin	351	352 ‡ 334	50	20
ciprofloxacin	331	332 ‡ 214	50	20



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Alliance HPLC System https://www.waters.com/534293>
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